

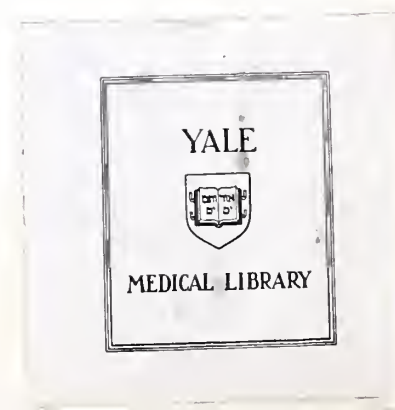
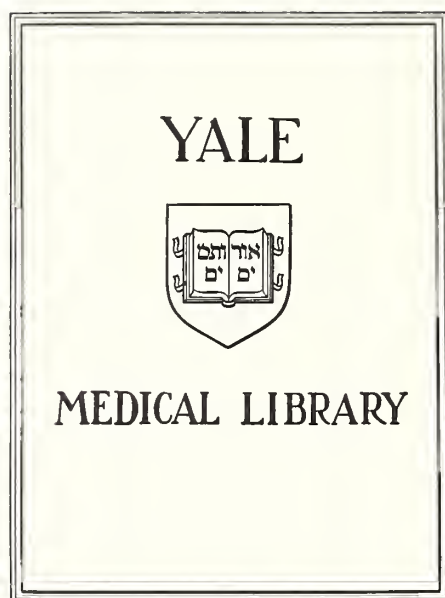


THE EVALUATION OF
CLINICAL TEACHING AT MEDICAL SCHOOL



FREDERICK S. SHERMAN

1975





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THE DEVELOPMENT OF A TEACHING EVALUATION FORM
BY WHICH MEDICAL STUDENTS CAN EVALUATE TEACHING
ON THEIR INTERNAL MEDICINE CLERKSHIPS

by

Frederick S. Sherman '75

Submitted in partial fulfillment of the requirements
for the Degree of Doctor of Medicine at the
Yale University School of Medicine

March 1, 1975

Preface

This is a personal senior paper. It stemmed from a deep feeling of uneasiness about the lack of consistency in teaching on the clinical clerkships at Yale Medical School. Some was good, and some was poor. Some attendings spent an hour a day with students; some did not spend an hour in six weeks. Rounds were held for the house staff and the students were forgotten; and vice versa. A student's performance was evaluated, but the teacher's was not. Furthermore, an evaluation may be written by someone not qualified to judge. My sense of awareness and distress has been heightened further by my role as Chairman of the Student Curriculum Committee and as a member of the Yale Medical School Curriculum Committee. On these committees there has been clearly a need to define goals and objectives of curriculum as well as clerkships, a need to assess student opinion about courses and teachers, and a desire to suggest and endorse good teaching practices. Furthermore, the curriculum committee has wanted mechanisms to gather such information.

This project is a beginning. It is a start toward developing a continual "friendly" evaluation of students and teachers with the idealistic hope that teaching and learning will become better.

It would have been more orthodox, perhaps, to have worked in a lab with test tubes and rats, but I would not have felt that I had accomplished anything with regard to those nagging problems in medical education which were and are very important to me and which I feel should be important for each medical school.

As the paper progressed, I realized that most articles dealing with evaluations of teachers never considered their form or technique. All that

mattered was how teaching correlated with learning. Yet, it seems that the data gathering is a crucial process in itself, especially when evaluating something as subjective as teaching. That is why this paper developed into showing the thought processes involved with formulating a teaching evaluation form. It is hoped that such a form will be used not only to evaluate and thereby improve teaching, but also to continually monitor the effectiveness and efficacy of the form itself. Furthermore, if such a form is used, it indicates a commitment to quality teaching.

I have enjoyed doing this project. It has been very difficult, but I learned much about questionnaires and education. In addition, this work has led me to ask many more questions, and it has instilled in me a desire to pursue similar projects more completely. I am rewarded by knowing that many students and teachers have expressed interest in this paper.

There were several people who aided me in this endeavor. I owe a special thanks to Dr. Morris Dillard, my advisor, for his valuable suggestions and encouragement. I hope that as director of student education in Internal Medicine he can find some practical use for the recommended evaluation form. I should like to also thank Reverend Dave Duncombe for introducing me to important literature, Arthur Ebbert for reviewing my questionnaire, Alvan Feinstein for reviewing my questionnaire and for making valuable suggestions regarding the literature and my formulations, J. Edwin Atwood for calmly responding to my incessant queries about many questions I was thinking of using, and Hank Willner for his philosophical and practical support. I should like to extend my appreciation to those medical students who answered my questionnaire. Their responses and comments

were invaluable. Susan Proto has been a very efficient and artful typist and to her I express my gratitude. Lastly, I am especially indebted to Eugenia Dyess for her organization, design, and typing of all the questionnaires, for her expert criticism and editing, for her helping me through several problems, and for her emotional support.

Frederick S. Sherman

March, 1975

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Introduction

This paper is an attempt to develop an evaluation form to be used by students to evaluate teaching on their internal medicine clerkships at Yale Medical School. It is certainly not this writer's attempt to make student evaluations the final authority about teaching quality. One study (Rodin, 1972) actually concluded that students tend to rate most highly instructors from whom they learn the least. The student, however, is the consumer and should have his say; otherwise, bad teaching practices may continue and good ones do not get their just due. One series, (Rous, 1971; Rous, 1972) in fact, believes that students should indeed have the final opinion about teaching "quality".

This research project provides an information tool. The evaluation form will provide subjective and objective data about what students think about the outline of the clerkship, what they think about the way teaching was conducted, what ways they would like to be taught, what they liked best and least in their teachers and the clerkships, and what they think should or should not be taught. From this information, plus their own input, teachers can plan a better, more meaningful clerkship experience, to say nothing of the needed "feedback" it would give particular teachers. (Ettinger, 1971)

Perhaps a presumptuous hope of this senior thesis project is to make people think about education. If students fill out the teaching evaluation form, it will force them to think about very specific aspects of their clerkship learning experience. They cannot respond emotionally, "Oh! He's a lousy teacher. He puts me to sleep." They must state why the teacher is soporific. When people think about the issues raised in the evaluation

form, they will become critical in a constructive sense. (Flax, 1974)

In addition, however, the student becomes a better student. If a student is forced to think about how he is taught, he is soon focusing on questions like what were the goals of the clerkship, what should they be, what did I actually accomplish, what should I have accomplished, and how was the information organized. Instead of being passive, the student will actively ponder how and what he was studying. (Butler, 1974; Coppernoll, 1974; Dworken, 1974; Elrick, 1967; Lea, 1974; Miller, 1961) He thinks about organization, mechanics, and presentation of information in addition to its substance. This should make the assimilation of material easier.

It is an assumption, therefore, that because a student is the consumer he has actively thought about teaching. Likewise, it is also an assumption that because someone went to medical school and is doing or did house staff training, he knows how to teach. Teaching, like any other profession, requires thought and trial. One cannot be a good teacher without thinking about the mechanics of teaching in addition to the subject he wants to teach. (Jason, 1974)

Finally, why is this paper the development of an evaluation form? Why not devise a form, administer it, and use the data to evaluate teaching over some finite time at Yale Medical School? The reason is that the gathering of the data is as crucial as the data itself. (Kent, 1974; Feinstein, 1970; Quarrick, 1972) Furthermore, one person cannot possibly know all the aspects that should be included or excluded from an evaluation form. This writer has utilized, therefore, his own personal experience, the experience of teachers, the literature, and the criticisms of students to take that first step--develop the "data gathering tool". For sure, there are some interesting

data in this report, but that is not its main purpose. Lastly, a teaching evaluation form will only produce useful data if it is continuously revised to meet changes in curriculum and the constructive criticisms of those using it. (Miller, 1961; Oaks, 1969; Rous, 1972)

What effect will this teaching evaluation form have in practice? It will give information about faculty teaching abilities, and it will fulfill an important need--a means of communication between teachers and students. After all, that is the secret to the successful educational experience--communication.

This paper details the development of an evaluation form for teaching on the internal medicine clerkships specifically. Since each phase of the medical school curriculum has its distinct features, each requires a specific evaluation form although there are many aspects of one that are applicable to several other educational endeavors.

Methods and Materials

By reading about medical education and by using personal experience, a battery of questions was gradually collected. These were then gathered into the form of a questionnaire (see Appendix I). This questionnaire was sent to the Director of Medical Student Education in Internal Medicine, the Associate Dean of the Medical School, and a Professor of Medicine and Epidemiology for their comments. After this and with the benefit of more directed reading (e.g. Payne, 1951) a second questionnaire was made for comment (see Appendix II). Finally, with some reorganization of questionnaire II, a third questionnaire was devised (see questionnaire III, p. 6). This questionnaire was to form the basis of the proposed final evaluation form. It was divided into seven sections which were considered necessary for an effective evaluation and which will be discussed later. Furthermore, it was designed to gather information about either one or two medicine clerkships depending on how many each student had completed. This is in contrast to the proposed final evaluation form which considers only one clerkship.

Questionnaire III was sent to a random sample (Meredith, 1967) of 25 third and fourth year students at Yale Medical School. Each had been contacted by phone and was asked to participate. All agreed, but only 17 (68%) filled out the questionnaire and returned it. One person (number 18) returned the questionnaire too late to be used. Although the intent of the questionnaire for forming the foundation and trial for a final, more concise evaluation form was explained, many students found the questionnaire long, demanding, and too separated from their actual clerkship experiences. This perhaps contributed to the poor return percentage. The students who

did not return the questionnaire could not be identified since there was no code and the forms were answered anonymously. Of the 17 who responded, 15 had taken two medicine clerkships.

Since this project is to develop a form to be used by students to evaluate teachers, the respondents were encouraged to criticize the questionnaire and make suggestions.

Lastly, utilizing the student comments and the manner in which they answered certain questions, the proposed final evaluation form was made. (See Results)

Questionnaire III

This is the questionnaire that was sent to students. Most of their responses are filled into the spaces allotted to each question. The answers to some of the questions could not be placed into the questionnaire proper; therefore, they follow the questionnaire in a series of charts. Following the charts there are some graphic representations of the responses to some of the questions. Finally, there is a section devoted to selected student responses to some of the long answer questions. These responses were selected for their clarity and their expression of a cross-section of opinion.

Abbreviations:

Att. or A. = attending

Res. or R. = resident

I. = intern

THING EVALUATION QUESTIONNAIRE

STUDENT EVALUATION

2

6. At the beginning of your medicine clerkship were you told what skills you would be evaluated in?

	Yes	A	Who	No
1st	3 (18%)	3 (100%)		14 (82%)
2nd	1 (6.7%)	1 (100%)		14 (94%)

7. Did you already know what skills you would be evaluated in before you started the clerkship?

	Yes	No
1st	2 (12%)	15 (88%)
2nd	11 (74%)	4 (26.5%)

If yes, how did you know? For 2nd, knew from previous clerkship.

8. Do you think that telling medical students exactly what skills they will be evaluated in is a good or bad idea? Would it help or hinder learning?

Yes: 14 (82%) No: 3 (18%)

9. At some point--at most half-way through the clerkship-- did someone tell you how well or how poorly you were progressing?

	Yes	A	R	Who	No
1st	5 (29%)	3 (60%)	2 (40%)		12 (71%)
2nd	4 (26.5%)	2 (50%)	2 (50%)		11 (74%)

10. Do you think that students should evaluate their ward teachers?

17 (100%) Yes 0 (0%) No

11. If you do think that students should evaluate teachers, should this be required of students?

8 (47%) Yes 9 (53%) No

12. Whose evaluation of students on medicine clerkships do you think is the most important for the Dean?

	Attending	Resident	Intern	A+R Other	No one	A+R+I
1st	3 (18%)	4 (24%)	2 (12%)	5 (29%)	—	3 (18%)
2nd	3 (20%)	5 (33%)	2 (13%)	3 (20%)	—	2 (13%)

13. Please judge whether the evaluator's appreciation of your sense of worth correlated with your own.

	Excellent	Good	Fair	Poor	Unknown	No Answer
1st	6 (35%)	5 (29%)	2 (12%)	2 (12%)	1 (6%)	1 (6%)
2nd	4 (26.5%)	6 (40%)	2 (13%)	—	1 (6.7%)	2 (13%)

HING EVALUATION QUESTIONNAIRE
 MODES OF TEACHING

14. Who did the most teaching to you on your medicine clerkships?
 (Use 1st, 2nd, 3rd.)

	Attending	Resident	Intern	Students	Other	No one
1st	2 (12%)	10 (54%)	5 (29%)	—	—	—
2nd	2 (13%)	4 (26.5%)	6 (40%)	—	—	3 (20%)

15. Rate how well you think the listed skills were taught to you on your medical clerkships.
 SCALE: VG - Very Good P - Poor
 G - Good NA - Not Applicable (in this case, meaning not taught)
 F - Fair

	1st	2nd
* Communications skills w/ patient	—	—
* Factual Knowledge	—	—
* Clinical problem solving	—	—
* Lab skills, i.e., gram stains, cultures, venipuncture, spinal tap	—	—
* Professional behaviour & attitude	—	—

see page 18

16. Using the same scale, rate how well you think each skill was taught by various modes of teaching. (NA here refers to teaching modality was not employed for the specific skill.)

	* Communication Skills	* Factual Knowledge	* Problem Solving	* Lab Skills	* Behaviour & Attitude
MODE OF TEACHING	1st/2nd	1st/2nd	1st/2nd	1st/2nd	1st/2nd
ference w/ Attending & ouse Staff	—/—	—/—	—/—	—/—	—/—
ference w/ Attending lone	—/—	—/—	—/—	—/—	—/—
ference w/ House Staff lone	—/—	—/—	—/—	—/—	—/—
d work rounds	—/—	—/—	—/—	—/—	—/—
side teaching	—/—	—/—	—/—	—/—	—/—
ding	—/—	—/—	—/—	—/—	—/—
tures	—/—	—/—	—/—	—/—	—/—
nd rounds	—/—	—/—	—/—	—/—	—/—
er: _____	—/—	—/—	—/—	—/—	—/—

MENTS: Too involved

17. What modes of teaching did your attending employ and how would you rate him? (Use same scale as #15.)

	MODES OF TEACHING		RATING
1st	_____	-	_____
	_____	-	_____
	_____	-	_____
2nd	_____	-	_____
	_____	-	_____
	_____	-	_____

18. What modes of teaching did your resident employ and how would you rate him? (Use same scale as #15.)

	MODES OF TEACHING		RATING
1st	_____	-	_____
	_____	-	_____
	_____	-	_____
2nd	_____	-	_____
	_____	-	_____
	_____	-	_____

19. In your opinion did the responsibilities of the ward help or hinder the resident's teaching of students?

3(18%) Help 5(29%) Hinder 8(47%) Neither Both 1(6%)

20. What modes of teaching did the interns employ and how would you rate him? (Use same scale as #15.)

	MODES OF TEACHING		RATING
1st	_____	-	_____
	_____	-	_____
	_____	-	_____
2nd	_____	-	_____
	_____	-	_____
	_____	-	_____

21. Did patient load and duties deter from the intern's teaching of medical students?

Often Sometimes Rarely Actually helped teaching
9(53%) 6(35%) 1(6%) 1(6%)

22. Please comment about the modality of teaching you found most helpful and useful, and why? Bedside teaching, Socratic dialogue, "on the go" impromptu discussions, Lectures

23. Please indicate what other modes of teaching you might like to see employed and why? same as #22

24. Did you have enough contact with your attendings?

	Yes	No
1st	9 (53%)	8 (47%)
2nd	7 (47%)	8 (53%)

25. About how many hours per week did you meet with your attending?

	0-5 hrs.	5-10 hrs.	More than 10 hrs.
1st	10 (59%)	7 (41%)	
2nd	10 (66%)	4 (26.5%)	1 (6.7%)

26. Of those hours how many were spent with only students and attending?

1st	_____ hrs.	average 1.75 hours; mean ~ 2 hours
2nd	_____ hrs.	1.20 hours; ~ < 1 hour

27. Rate communication with each of your teachers. (Use same scale as #15.)

	Attending	Resident	Intern
1st	_____	_____	_____
2nd	_____	_____	_____

see page 18

28. Who should have the most teaching responsibility for medical students on the medical wards?

	Attending	Resident	Intern	Other
Why?	6 (35%)	10 (59%)	1 (6%)	_____
	<u>Resident: He knows the patients best</u>			
	<u>Attending: Most experienced</u>			

29. Which person on the ward presented you with the best role-model of a competent physician?

	Attending	Resident	Intern	Other ^{A+R}	No one	R+I
1st	5 (29%)	3 (18%)	4 (24%)	2 (12%)	3 (18%)	
2nd	2 (13%)	6 (40%)	4 (26.5%)	1 (6.7%)	1 (6.7%)	1 (6.7%)

30. Rate the competency of your attending as teacher using the following scale:

VG - Very Good P - Poor
G - Good TI - Totally Inadequate
F - Fair

Attending
1st/2nd

- * Depth & newness of knowledge ____/____
- * Admits to lack of knowledge when appropriate ____/____
- * Ability to convey information ____/____
- * Ability to clarify complex issues ____/____
- * Receptivity to new ideas or criticisms ____/____
- * Genuine interest in teaching ____/____
- * Willingness to devote extra time to student problems ____/____
- * Stimulating teacher ____/____
- * Ability to teach analytical approach to clinical problems ____/____
- * In relating to patients, conveys compassion & concern for the individual ____/____
- * Teaches utilization of paramedical personnel in patient care ____/____
- * Provision of references ____/____

See page
19

COMMENTS:

31. Please discuss whether the attending &/or resident actively encouraged you to discuss your impressions and formulations about a patient's care and disease, i.e., differential diagnosis, pathophysiology, treatment, prognosis, psychological adjustment to illness, relationship with family.

Yes: 15 (88%) No: 2 (12%)

Also, please indicate:

1. Whether you benefitted from such discussions

Yes No
15 (100%)

2. Whether the discussions were conducted in a comfortable manner

10 (66%) 5 (33%)

3. Frequency of such interactions:

Often A few times Once Never
5 (33%) 10 (66%) _____ _____

7

- | VG | G | F | P | TI |
|----|---------|---------|---------|--------|
| | 3 (18%) | 6 (35%) | 7 (41%) | 1 (6%) |

- 3(20%) 9(60%) 3(20%)

- competence. 6(40%) 7(47%) 2(13%)

- | | Often | A few times | Once | Never |
|-----|-------|-------------|------|-----------|
| 1st | — | 2 (12%) | — | 15 (88%) |
| 2nd | — | — | — | 15 (100%) |

- | | Often | A few times | Once | Never |
|-----|-------|-------------|---------|----------|
| 1st | — | 1 (12%) | 1 (12%) | 15 (88%) |
| 2nd | — | 1 (6.7%) | — | 14 (94%) |

- | | Often | A few times | Once | Never |
|-----|-------|-------------|---------|-----------|
| 1st | — | 1 (6%) | 2 (29%) | 14 (82%) |
| 2nd | — | — | — | 15 (100%) |

- | | Often | A few times | Once | Never |
|-----|-------|-------------|-------|----------|
| 1st | — | 1(6%) | 1(6%) | 15(88%) |
| 2nd | — | | | 15(100%) |

- 15(88%) Yes 2(12%) No

If yes, who should this be and how often? A R I
7(47%) 7(47%) 1(6%)

- SCALE: O - Often S - Once
F - Few times N - Never

<u>Attending</u>	<u>Resident</u>	<u>Intern</u>
<u>1st/2nd</u>	<u>1st/2nd</u>	<u>1st/2nd</u>

/

/

/

see page 20

/

1

/

- Very important 1 2 3 4 5 Useless

4(24%) 8(47%) 3(18%) 1(6%) 1(6%)

42. How important should write ups be? Circle one.

Very important 1 2 3 4 5 Useless
3(18%) 7(41%) 5(29%) 1(6%) 1(6%)

43. Who reviewed your write ups?

	Intern	Resident	Attending	No one
1st	1(6%)	12(71%)	4(24%)	
2nd	—	12(80%)	2(13%)	1(6.7%)

44. Were the write ups usually returned promptly, say within 24 hours?

	Yes	No	When
1st	4(23%)	13(77%)	2.5 days
2nd	5(33%)	10(66%)	2.5 days

45. Were there comments, criticisms, etc., made by the reviewer on your write ups?

	Always	Sometimes	Rarely	Never
1st	14(82%)	2(12%)	1(6%)	
2nd	8(53%)	2(13%)	4(26.5%)	1(6.7%)

46. Did you find the comments generally helpful?

	Yes	No
1st	15(88%)	2(12%)
2nd	16(66%)	5(33%)

47. On the average, how many write ups per week did you do?

	Per week
1st	2
2nd	3

48. How often did the person who reviewed your write ups meet with you to discuss them? (1/wk.) (1/2-3wks.)

	Nearly always	Sometimes	Hardly ever	Never
1st	2(12%)	6(35%)	3(18%)	6(35%)
2nd	4(26.5%)	1(6.7%)	3(20%)	7(47%)

49. How often did you try to meet with your reviewer to discuss the write up?

	Didn't have to (#48)	Always	Sometimes	Hardly ever	Never
1st	4(24%)	3(18%)	6(35%)	1(6%)	3(18%)
2nd	4(26.5%)	1(6.7%)	2(13%)	2(13%)	6(40%)

50. How often did the person who reviewed your write ups also work up the patient?

	Always	Sometimes	Rarely	Never
1st	7(41%)	8(47%)	1(6%)	1(6%)
2nd	8(53%)	4(26.5%)	1(6.7%)	2(13%)

51. If the person who reviewed your write ups had not done a history & physical on the patient, was he informed well enough about the patient to evaluate critically your write up?

Yes: 15 (88%) No: 2 (12%)

52. How often did you and your reviewer return to the patient's bedside together and discuss and compare points about history and physical?

	Always (Every work up)	Sometimes (1/wk.)	Rarely (1/ 2-3 wks.)	Never
1st	—	<u>4 (24%)</u>	<u>6 (35%)</u>	<u>7 (41%)</u>
2nd	—	<u>2 (13%)</u>	<u>6 (40%)</u>	<u>7 (47%)</u>

53. Whom do you think should be responsible for reviewing a student's work ups?

3 (18%) Attending 14 (82%) Resident — Intern — Other —

Why? —

54. Were you encouraged to do fairly rapid but good histories, physicals, and write ups?

	Yes	No
1st	<u>8 (47%)</u>	<u>9 (53%)</u>
2nd	<u>11 (74%)</u>	<u>4 (26%)</u>

55. How much satisfaction did you derive from doing a history and physical on a patient and then writing it up for review?

Very satisfying 1 2 3 4 5 Frustrating, learned little
2 (11%) 2 (11%) 8 (47%) 4 (24%) 1 (6%)

56. Rate your clerkship experience using the following scale:
VG - Very Good P - Poor
G - Good TI - Totally Inadequate
F - Fair

1st/2nd

- * Usefulness of the clerkship for your medical education
- * Usefulness of clerkship for other clerkships
- * Teaching of the approach & analyses of clinical problems
- * Helpfulness of criticism of your work ups
- * Your learning to develop judgment
- * Emphasis on crucial material by teachers
- * Basic science correlations

See page 22

57. Did your medicine clerkship(s) have any effect on your future in medicine? If so, in what way?

15 (88%) Yes 2 (12%) No See page 50

58. How much did the medicine clerkship(s) help fulfill your idea of your role as a physician?

	Very much	Some	Little	Not at all
1st	3 (18%)	5 (29%)	3 (18%)	6 (35%)
2nd	1 (6.7%)	8 (53%)	2 (13%)	4 (26.5%)

59. In what other ways were your ideals of medical education fulfilled or unfulfilled by your medicine clerkship(s)?

See page 51

60. On your medicine clerkship(s) was the medical profession portrayed in such a way that you wanted to identify with it and be a part of it?

6 (35%) Yes 6 (35%) No 3 (18%) No opinion 2 (12%) Both

61. Do you feel that the medicine clerkship instilled in you a desire to learn for the sake of learning or to achieve a good evaluation? Explain.

Learn	Evaluation	Both	Neither
7 (41%)	5 (29%)	3 (18%)	2 (12%)

also see page 51

I would appreciate specific comments about this questionnaire.
For example, do you think it would be a good evaluation tool,
and what aspects of the teaching process or the clerkship would
you like to see added or eliminated.

See page 26

Question #15. Rate how well you think the listed skills were taught to you on your medical clerkships.

<u>Skill</u>	<u>Rating (1st and 2nd clerkships combined)</u>				
	<u>VG</u>	<u>G</u>	<u>F</u>	<u>P</u>	<u>NA</u>
Communication Skills with patient	1(3.1%)	2(6.2%)	3(9.4%)	10(31.5%)	16(50%)
Factual Knowledge	9(28%)	11(34.5%)	7(22%)	3(9.4%)	2(6.2%)
Clinical Problem Solving	6(19%)	8(25%)	14(44%)	3(9.4%)	1(3.1%)
Lab skills, i.e. gram stains, cultures, veni- puncture, spinal tap, etc.	7(22%)	11(34.5%)	8(25%)	3(9.4%)	3(9.4%)
Professional behavior and attitude	1(3.1%)	9(28%)	6(19%)	9(28%)	9(22%)

Question #27. Rate communication with each of your teachers.

<u>Person</u>	<u>Clerkship</u>	<u>VG</u>	<u>G</u>	<u>F</u>	<u>P</u>
Attending:	1 st	2(12%)	3(18%)	4(24%)	8(47%)
	2 nd	1(6.7%)	4(26.5%)	5(33%)	5(33%)
Resident:	1 st	6(35%)	3(18%)	5(29%)	3(18%)
	2 nd	7(47%)	3(20%)	3(20%)	2(13%)
Interns:	1 st	5(29%)	8(47%)	2(12%)	2(12%)
	2 nd	8(53%)	4(26.5%)	2(13%)	1(6.7%)

Question #30. Rate the competency of your attending as a teacher.
(1st and 2nd clerkships combined)

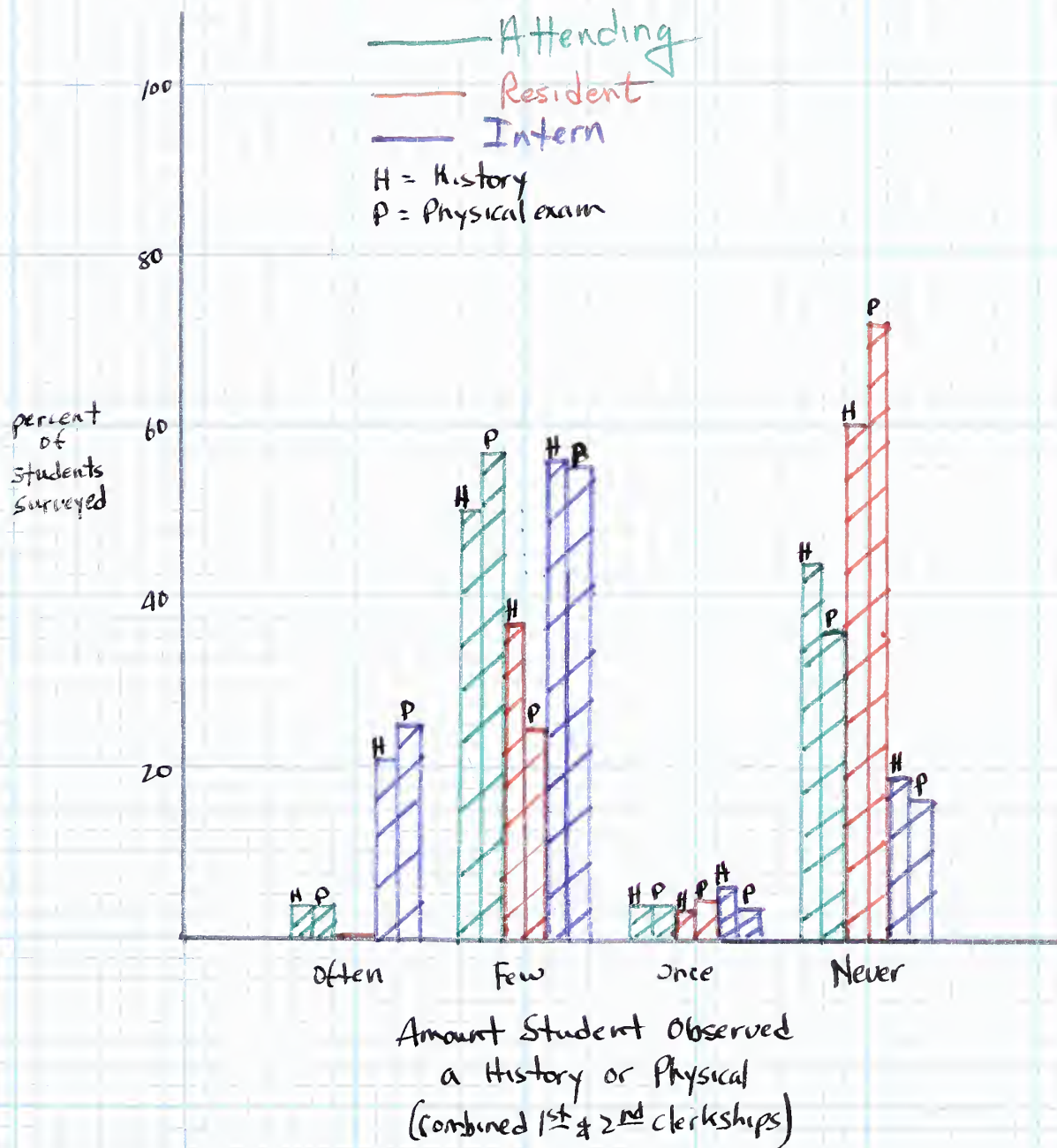
	<u>Rating</u>				
	<u>VG</u>	<u>G</u>	<u>F</u>	<u>P</u>	<u>TI</u>
Depth and newness of knowledge	14(44%)	9(28%)	3(9.4%)	3(9.4%)	3(9.4%)
Admits to lack of knowledge when appropriate	7(22%)	15(47%)	7(22%)	9(28%)	0(0%)
Ability to convey information	8(25%)	9(28%)	9(28%)	6(19%)	
Ability to clarify complex issues	6(19%)	11(34.5%)	9(28%)	5(15.6%)	1(3.1%)
Receptivity to new ideas or criticisms	4(12.5%)	6(19%)	7(22%)	3(9.4%)	12(37.5%)
Genuine interest in teaching	13(41%)	9(28%)	6(19%)	4(12.5%)	
Willingness to devote extra time to student problems	6(19%)	9(28%)	7(22%)	8(25%)	2(6.2%)
Stimulating teacher	6(19%)	7(22%)	4(12.5%)	11(34.5%)	4(12.5%)
Ability to teach analytical approach to clinical problems	4(12.5%)	14(44%)	8(25%)	5(15.6%)	1(3.1%)
In relating to patients, conveys compassion & concern for the individual	3(9.4%)	14(44%)	7(22%)	4(12.5%)	4(12.5%)
Teaches utilization of paramedical personnel in patient care	1(3.1%)	3(9.4%)	7(22%)	6(19%)	15(47%)
Provision of references	6(19%)	10(31.5%)	4(12.5%)	9(28%)	3(9.4%)

Question #40. How often did you watch the following do a history and physical examination?

<u>Teacher:Skill</u>	<u>Often</u>	<u>Few</u>	<u>Once</u>	<u>Never</u>
Attending:History	1(3.1%)	16(50%)	1(3.1%)	14(44%)
Physical	1(3.1%)	18(57%)	1(3.1%)	12(37.5%)
Resident:History	0	12(37.5%)	1(3.1%)	19(59%)
Physical	0	8(25%)	1(3.1%)	23(72%)
Interns:History	7(22%)	18(56%)	2(6.2%)	5(15.6%)
Physical	8(25%)	18(56%)	1(3.1%)	5(15.6%)

Also see graph next page.

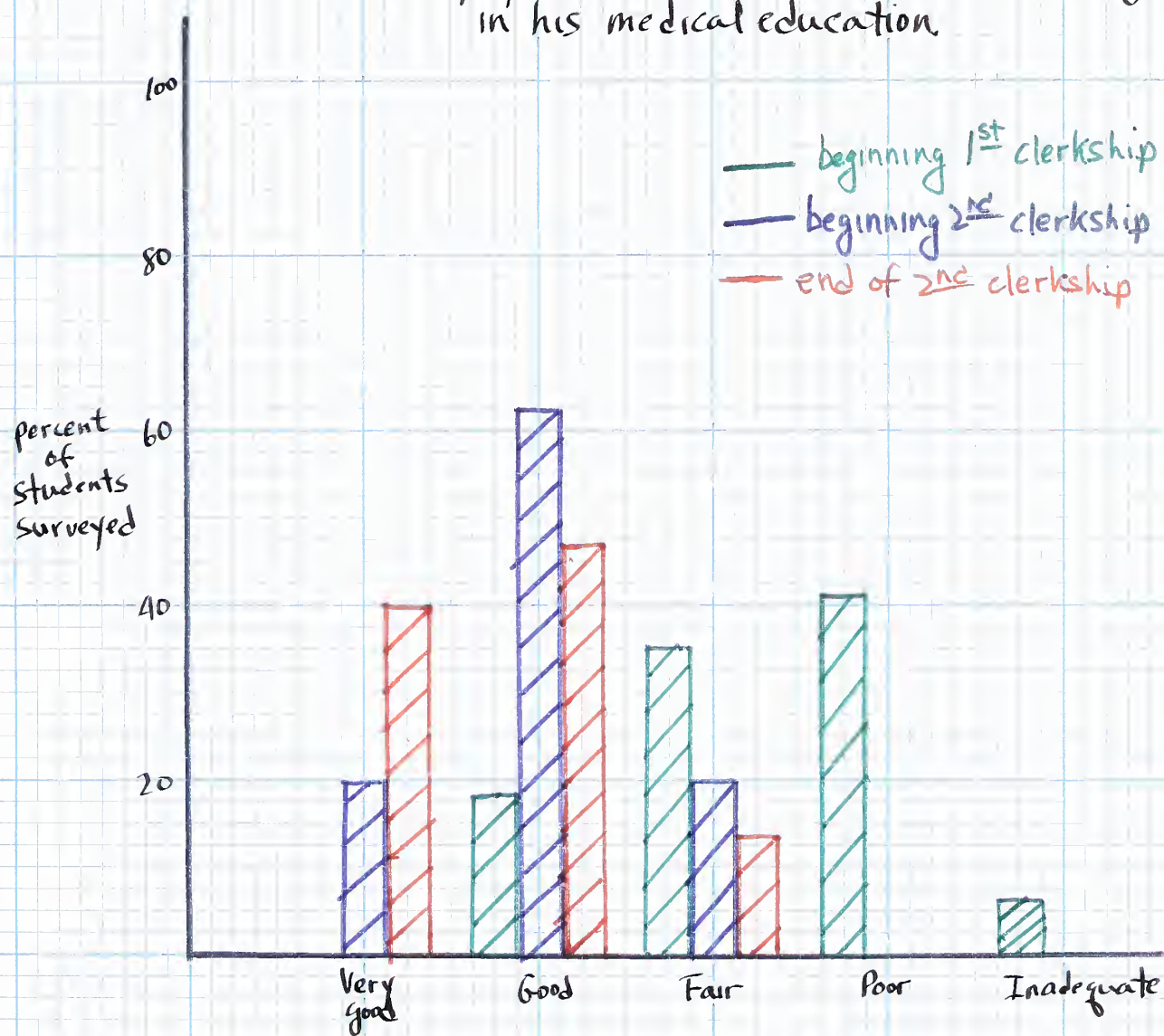
Question #40: Frequency which a student observed his teachers doing a history and physical examination.



Question #56. Rate your clerkship experience. (1st and 2nd clerkships combined)

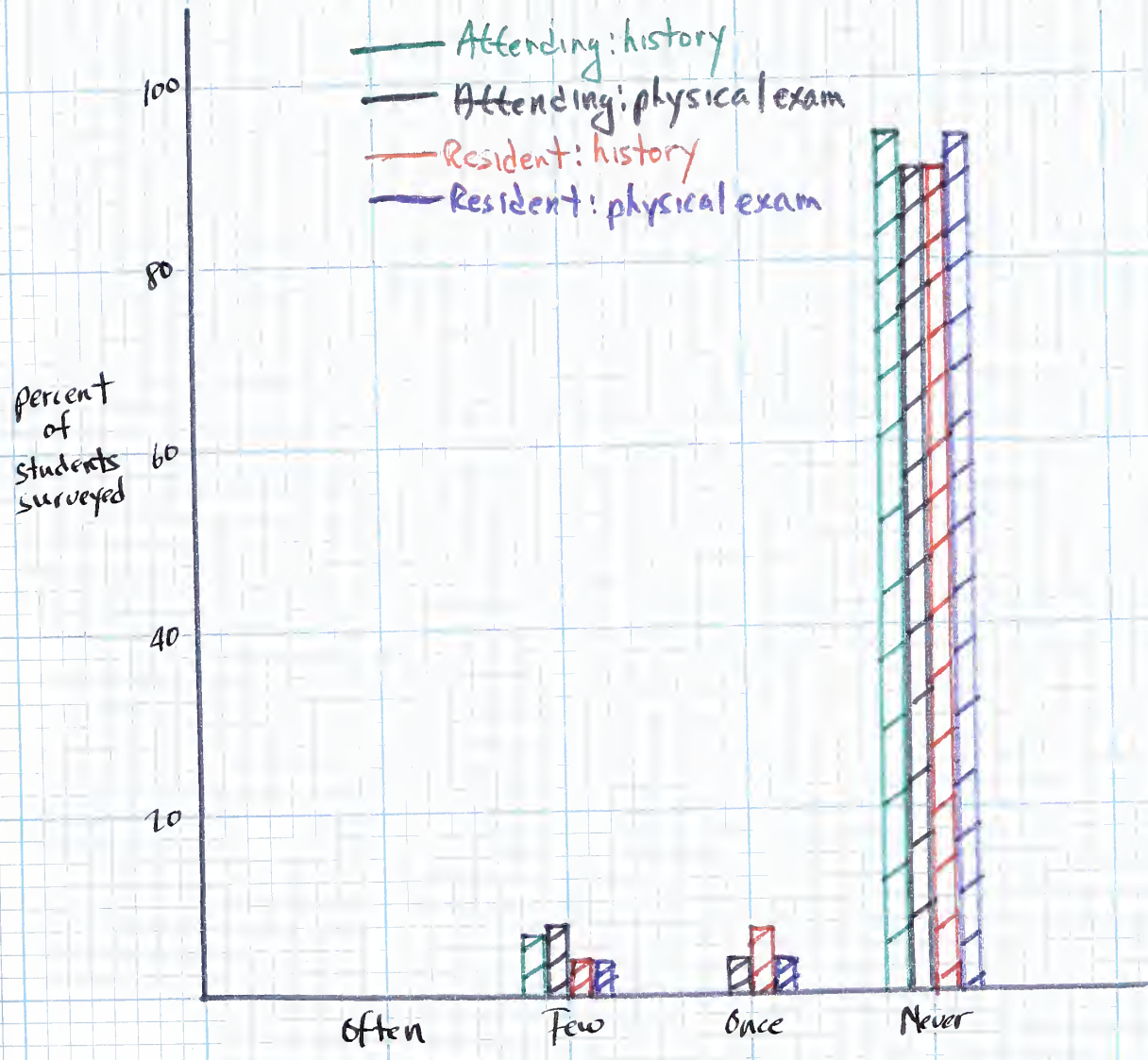
	<u>Ratings</u>				
	<u>VG</u>	<u>G</u>	<u>F</u>	<u>P</u>	<u>TI</u>
Usefulness of the clerkship for your medical education	12(37.5%)	11(34.5%)	6(19%)	3(9.4%)	0
Usefulness of clerkship for other clerkships	10(31.5%)	13(41%)	7(22%)	2(6.2%)	0
Teaching the approach and analyses of clinical problems	3(9.4%)	16(50%)	10(31.5%)	3(9.4%)	0
Helpfulness of criticism of your work-ups	5(15.6%)	13(41%)	5(15.6%)	6(19%)	3(9.4%)
Emphasis on crucial material by teachers	3(9.4%)	8(25%)	15(47%)	6(19%)	0
Basic science correlations	2(6.2%)	11(34.5%)	7(22%)	11(34.5%)	2(6.2%)
Your learning to develop judgement	3(9.4%)	11(34.5%)	13(41%)	5(15.6%)	0

Questions 32, 33, 34: Student's self-assessment of competence in performing a history and physical examination at different stages in his medical education



Self-assessment of competence in
doing a history and physical

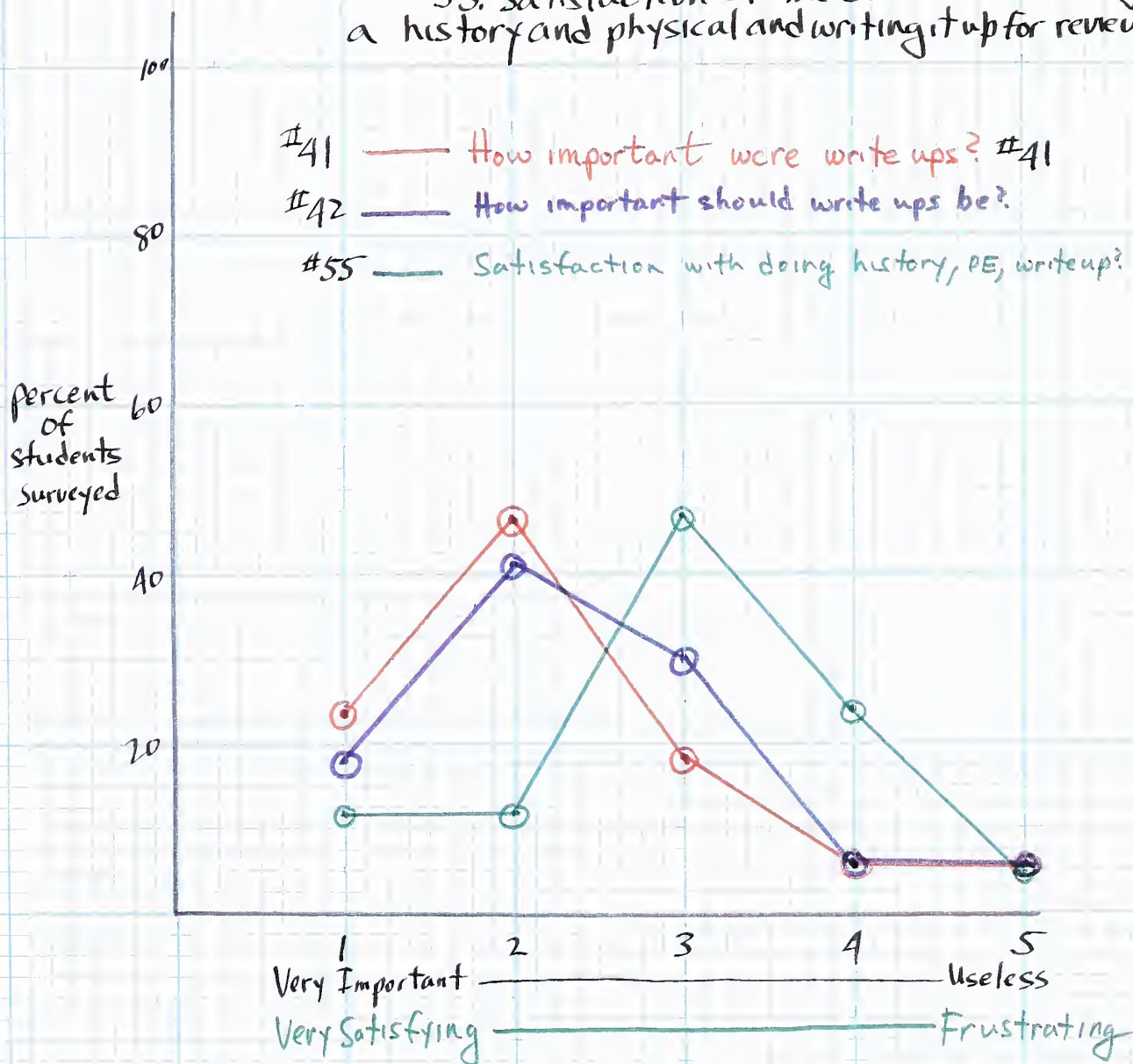
Questions 35, 36, 37, 38. Frequency student was observed by a teacher doing a history and physical examination.



Amount Student was Observed
Doing a History or Physical
(combined first & second clerkships)

Questions 41, 42, 55. 41 & 42 Student opinion of the importance of the history, physical, and write up in his medicine clerkship experience.
 55. Satisfaction of the student in doing a history and physical and writing it up for review.

#41 — How important were write ups? #41
 #42 — How important should write ups be?
 #55 — Satisfaction with doing history, PE, write up?



Student Opinion about the
 History and Physical Exam

Selected Student Answers and Comments

7. "It became obvious that cooperation and willingness to take over as much of the responsibility of patient care, even at risk of education was highly regarded."

8. "I would put it this way--let student know what it is best to learn to be an effective clinician. I resent phrasing goals in terms of 'evaluation'."

16. "Reading is often most helpful for facts, but one doesn't have anytime so it doesn't matter much. Student conferences at V.A. were welcome."

24. "He was so poor...three times per week was too much."

57. "Very attracted after first; almost changed my mind after second."

"I felt discouraged."

"I liked medicine more."

"Made me question my career goals."

"It convinced me that internists live lives of 'noisy desperation'. It convinced me that medical education system cannot produce concerned, compassionate physicians."

"Found it grinding, pressured, and unfriendly. Decided not to go into medicine."

59. "Realized how much the good and bad aspects of physicians' character related to their own ways of dealing with life..."

"...inadequate for \$3,000+/year tuition."

"Concern for making a patient feel better was secondary to making a diagnosis or implementing 'best' therapy."

"Little organized teaching in context of busy ward with students often considered work horses, hindrance. More concern often for 'evaluation' as pertains 'to get ahead' than to ideal of being competent, compassionate physician."

60. "While I disliked much of what I saw in a personal sense, I thought that Yale represented the medical profession in a reasonably good fashion."

61. "I did not concern myself with evaluation--maybe I should have."

"It is impossible not to be concerned with evaluations. You are constantly made to realize that the quality of your internship is based solely on your two medicine clerkships."

"Neither. Such desires are developing long before med. school."

"I was told that I had a lot riding on my evaluation; there was no way I could avoid slanting my actions."

"...pressure of clerkship overemphasizes evaluation. Often students are afraid to ask questions or say, 'I don't know' because it might adversely affect evaluations. For some reason, all of this is maximized on medicine though it exists throughout all clerkships and Yale Medical School. I am hating my current experience at V.A.--tons of scut, always exhausted, no time to read, no one has time or patience, attending only interested in his own field. I resent being used as a scut boy--but I cannot see any way out."

"Learn for sake of learning; if you do that, then evaluation will reflect the real you."

General Comments

"The quality of a clerkship depends on the quality of the residents and interns...interns and residents come and go, for better or worse. Evaluations have little part to play, if the house staff is not going to be affected by them. I feel the best way to insure the best possible clerkship given a set of house staff would be to address them concerning the need for them to actively seek out comments, criticisms, lectures, and bedside correlations. To do this, students must be aggressive and not hindered by the fear of bad evaluations from psychotic house staff who feel put upon by that student. With such an attitude, I wonder how I will ever get an internship."

"Teaching, like any other mode of interpersonal relations, is a complex interaction of the teacher's knowledge and desire to impart same and student's desire for information and teaching and attitudes toward it and the teacher."

"On the whole, the attending was irrelevant to my clinical education."

"It's ok to evaluate clerkships but that doesn't change them. The whole experience on a clerkship, not only medicine, depends on the people involved--some are lousy and it's terrible or great and it's terrific. Logical changes in structure don't make that much difference."

"There's no real bedside teaching where attending is present."

"Evaluation of students should be primarily by faculty, not residents or interns who are only two - three years ahead of students and have more

tendency to be subjective."

"We need general internists as attendings, not aldosteronologists or hepatologists."

"I suggest using taped interviews as well to evaluate teaching."

Results

Proposed Teaching Evaluation Form

This is a comprehensive, in depth form by which students can evaluate teaching on an internal medicine clerkship. Ideally, this questionnaire would be administered by the Chairman of the Department of Internal Medicine. The form is somewhat long of necessity to be comprehensive. It takes an average of 20 - 30 minutes to answer. Since it is divided into seven sections, one or more individually could be administered if an evaluation of a specific aspect of teaching is desired.

TEACHING EVALUATION FORM

Introduction -- Goals & Objectives

A. Class: 3rd year 4th year

B. Medicine Clerkship: Where Clerkship period 1-8

1st clerkship
2nd clerkship

C. Describe briefly your feelings during the first few moments on the medicine clerkship and whether anyone tried to allay any anxieties.

1. Were the goals and objectives of the medicine clerkship defined for you? Yes No
If so, by whom?
 Attending Resident Intern Other No one

2. Do you think it important for someone to discuss with you the goals and objectives of the medicine clerkship experience?
 Yes No
If so, who?

3. If objectives were defined for you, rate how well they were met.
 Very Good Good Fair Poor Not applicable

4. What do you think the objectives of a medicine clerkship should be?

5. At the beginning of your medicine clerkship did anyone explain to you the roles and duties of the clinical clerk?
 Yes No
If so, who?

6. At the beginning of your medicine clerkship were you told what skills you would be evaluated in?
Yes _____ No _____
If so, by whom? _____
7. Did you already know what skills you would be evaluated in before you started the clerkship?
Yes _____ No _____
If so, how did you know? _____
8. Do you think that telling medical students exactly what skills they will be evaluated in is a good or bad idea? Would it help or hinder learning?

9. At some point--at most half-way through the clerkship--did someone tell you how well or how poorly you were progressing?
Yes _____ No _____
If so, who? _____
10. Do you think that students should evaluate their ward teachers?
Yes _____ No _____
11. If you do think that students should evaluate teachers, should this be required of students?
Yes _____ No _____
12. Whose evaluation of students on medicine clerkships do you think is the most important for the Dean?
____ Attending ____ Resident ____ Intern ____ Other: _____
13. Whose evaluation of students on medicine clerkships do you think should be the most important for the Dean? _____
14. Please judge whether the evaluator's appreciation of your sense of worth correlated with your own.
____ Excellent ____ Good ____ Fair ____ Poor

Modes of Teaching/Learning

15. Who did the most teaching to you on your medicine clerkship? (Rank 1st, 2nd, 3rd)
____ Attending ____ Resident ____ Intern ____ Students ____ Other
____ No one
16. Who was your best teacher on the clerkship? Why?

3

17. Rate how well you think the listed skills were taught to you.

- Communication skills with patient
- Factual knowledge
- Clinical problem solving
- Lab skills, i.e., gram stains, cultures, venipuncture, spinal tap
- Professional behavior & attitude

Attending _____

TEACHING EVALUATION FORM
Modes of Teaching/Learning (Ctd.)

4

18. (Continued)

	MODE	RATING	FORMAT	RATING
Resident	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
Intern	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

COMMENTS: _____

19. Did the responsibilities of the ward deter from the Resident's teaching of students?
 ___ Often ___ Sometimes ___ Rarely ___ Actually helped teaching
20. Did patient load and duties deter from the intern's teaching of medical students?
 ___ Often ___ Sometimes ___ Rarely ___ Actually helped teaching

Contact with Teacher

21. Did you have enough contact with your attendings?
 ___ Yes ___ No
22. About how many hours per week did you meet with your attending?
 ___ 0-5 hrs. ___ 5-10 hrs. ___ More than 10 hrs.
23. Of those hours how many were spent with only students and attending? _____ hrs.
24. Rate communication with each of your teachers using the scale in #17.
 ___ Attending ___ Resident ___ Intern
25. Who should have the most teaching responsibility for medical students on the medical wards?
 ___ Attending ___ Resident ___ Intern ___ Other
 Why? _____
26. Which person on the ward presented you with the best role-model of a competent physician?
 ___ Attending ___ Resident ___ Intern ___ Other ___ No one

Competency

27. Rate the competency of your attending and resident as teachers.

SCALE: 5 = Very Good 2 = Poor
4 = Good 1 = Totally Inadequate
3 = Fair

Attending Resident

___	___	Depth & newness of knowledge
___	___	Admits to lack of knowledge when appropriate
___	___	Ability to convey information
___	___	Ability to clarify complex issues
___	___	Receptivity to new ideas or criticisms
___	___	Genuine interest in teaching
___	___	Willingness to devote extra time to student problems
___	___	Stimulating teacher
___	___	Teaching of communications skills
___	___	Ability to teach analytical approach to clinical problems
___	___	In relating to patients, conveys compassion & concern for the individual
___	___	Teaches utilization of paramedical personnel in patient care
___	___	Provision of references

COMMENTS:

28. Please discuss whether the attending, the resident &/or the intern actively encouraged you to discuss your impressions and formulations about a patient's care and disease, i.e., differential diagnosis, pathophysiology, treatment, prognosis, psychological adjustment to illness, relationship with family. If this was done, please indicate in what manner.

Also, please indicate:

Yes	No	Whether you benefitted from such discussions
___	___	Whether the discussions were conducted in a comfortable manner
___	___	

Frequency of such interactions: ___ Often ___ A few times
___ Once ___ Never

29. At the beginning of your clerkship, rate your competence at doing a history and physical using the scale in #27.

30. Rate yourself at the end of your clerkship. _____
31. If you have completed two medicine clerkships, rate your competence. _____
32. How often did the attending watch you do a history?
_____ Often _____ A few times _____ Once _____ Never
33. How often did the attending watch you do a physical examination?
_____ Often _____ A few times _____ Once _____ Never
34. How often did the resident watch you do a history?
_____ Often _____ A few times _____ Once _____ Never
35. How often did the resident watch you do a physical examination?
_____ Often _____ A few times _____ Once _____ Never
36. Do you think it important that someone watch you do a history and a physical? _____ Yes _____ No
If yes, who should this be and how often?
-
37. How often did you watch the following do a history & physical examination?
SCALE: O = Often S = Once
 F = Few times N = Never
 Attending Resident Intern
HISTORY _____ _____ _____
PHYSICAL _____ _____ _____
38. How important were write ups in the medicine clerkship to your learning experience? Circle one.
Very important 1 2 3 4 5 Useless
39. How important should write ups be? Circle one.
Very important 1 2 3 4 5 Useless
40. Who reviewed your write ups?
_____ Intern _____ Resident _____ Attending
41. Were the write ups usually returned promptly, say within 24 hrs?
_____ Yes _____ No; when? _____
42. Were there comments, criticisms, etc., made by the reviewer on your write ups?
_____ Always _____ Sometimes _____ Rarely

History & Physical (Ctd.)

43. Did you find the comments generally helpful?
 ___ Yes ___ No
44. On the average, how many write ups per week did you do?
 ___ per week
45. How often did the person who reviewed your write ups meet
 with you to discuss them?
 (1/wk.) (1/2-3wks.)
 ___ Nearly always ___ Sometimes ___ Hardly ever ___ Never
46. How often did you try to meet with your reviewer to discuss
 the write up? ___ Did not have to (#45)
 ___ Always ___ Sometimes ___ Hardly ever ___ Never
47. How often did the person who reviewed your write ups also work
 up the patient?
 ___ Always ___ Sometimes ___ Rarely ___ Never
48. If the person who reviewed your write ups had not done a
 history & physical on the patient, was he informed well
 enough about the patient to evaluate critically your
 write up?
 ___ Yes ___ No
49. How often did you and your reviewer return to the patient's
 bedside together and discuss and compare points about history
 and physical?
 (Every work up) (1/wk.) (1/2-3wks.)
 ___ Always ___ Sometimes ___ Rarely ___ Never
50. Who do you think should be responsible for reviewing a
 student's work ups?
 ___ Attending ___ Resident ___ Intern ___ Other _____
 Why? _____
51. Were you encouraged to do fairly rapid but good histories,
 physicals, and write ups?
 ___ Yes ___ No
52. How much satisfaction did you derive from doing a history and
 physical on a patient and then writing it up for review? Circle
 one.
 Very satisfying 1 2 3 4 5 Frustrating, learned little

53. Rate your clerkship experience using the following scale:

5 = Very Good 2 = Poor
4 = Good 1 = Totally Inadequate
3 = Fair

- ☐ Usefulness of the clerkship for your medical education
- ☐ Usefulness of clerkship for other clerkships
- ☐ Learning the approach & analysis of clinical problems
- ☐ Helpfulness of criticism of your work ups
- ☐ Your learning to develop judgment
- ☐ Your learning to communicate with patients
- ☐ Emphasis on crucial material by teachers
- ☐ Basic science correlations

54. Did your medicine clerkship have any effect on your future
in medicine? Yes No
If so, in what way? _____

55. How much did the medicine clerkship help fulfill your idea
of your role as a physician?
____ Very much ____ Some ____ Little ____ Not at all

56. In what other ways were your ideas of medical education
fulfilled or unfulfilled by your medicine clerkship? ,

57. On your medicine clerkship was the medical profession portrayed
in such a way that you wanted to identify with it and be
a part of it? Explain.
____ Yes ____ No ____ No opinion

58. Do you feel that the medicine clerkship instilled in you a
desire to learn for the sake of learning or to achieve a good
evaluation? Explain.

What aspects of the teaching process on the clerkship would you like to see improved?

What suggestions do you have for this evaluation form? Do you think it is a good evaluation tool?

Discussion

The following discussion is divided into two sections. The first concerns itself with the seven parts of the proposed teaching evaluation form. Each part is explored as to why it is important for teaching evaluation. The second section considers student-faculty evaluation in general and discusses various arguments that have been presented in the literature.

Sections of the Evaluation Form

Goals and Objectives

The medical education literature is replete with articles dealing with goals and objectives of medical education. It is literally very hard to read an education journal without seeing an article related to the subject in some way. There are basically three types of objectives in medical education--overall, departmental, and individual. (Miller, et al, 1961, p. 80) This paper is concerned with clerkship objectives which contain departmental, as well as individual objectives. The internal medicine clerkship has encountered national criticism about being too unstructured. (Petersdorf, 1974) The reason is simple--clerkship objectives are not defined. They are not defined by the department of medicine, and it is not common that they are defined by those teaching the clerkship (approximately 50% at Yale). "I have the inescapable feeling that many current trends in medical education, externally and internally generated, have come into being in virtual disregard of a set of objectives. If we continue to approach the future only in terms of present trends rather than in terms of objectives, the consequence will be a future that is, indeed, a mere extension of the present rather than a

solution for the present." (Bennett, 1973)

Bennett has issued the warning, but what use are objectives really, and how should they be defined? There are several reasons to state goals and objectives before a clerkship. If nothing else, it serves as a point of information; for it informs not only the student what is expected of him, but also informs the nursing staff, residents, and attending physicians what the student is expected to accomplish. A set of objectives thereby obviates misunderstandings. (Vontver, 1974)

Objectives define the curriculum. They make teachers think about what they are going to teach and how it fits into the overall scheme of the clerkship and the curriculum as a whole. In other words, teaching is not a random affair. To use Kane's phrase, it is like "beginning at the end." (Kane, et al, 1973) The final goal is defined and the means of achieving it are formulated, rather than having the course define the goals. (As a matter of fact, Samuel Harvey did exactly that, defined goals first, when he designed the Yale Medical Curriculum in 1941). Furthermore, people who are organizing and teaching clerkships must think about and define clearly what should be accomplished and when. This benefits the student, for he then knows what is expected of him, not only in terms of evaluation, but also in terms of how he should approach his work in terms of time appropriation, philosophy, and reading.

Lastly, goals and objectives are tightly linked to evaluation. A statement of goals indicates what should be evaluated, and that statement, therefore, must be made in terms that can be measured. If an objective cannot be evaluated in some manner then it probably should be discarded. With this in mind, teachers become more critical of the students they are

evaluating because they know what to look for in terms of a final product and the ways of progressing to it. Without knowing what a clerkship is supposed to accomplish, an evaluation is blind and worthless. Furthermore, the student has an explicit knowledge of what is expected of him. He will not overlook important aspects of his education and will not be disturbed by his evaluations.

How should goals and objectives be communicated? They should be written clearly and concisely. In this manner, the people involved with the clerkship can continually peruse and cogitate the design of the clerkship and modify it whenever necessary. Students especially benefit because they will see how each specific exercise fits into the whole. Perhaps most importantly in current days of dynamic medical education reform, the stated goals and objectives of a clerkship indicate where that particular clerkship fits into the overall medical curriculum. If any emphasis must be changed, then it is easily accomplished. If objectives are not explicit, then change is slow, if at all.

Who should define goals and objectives for a medical clerkship? It is the responsibility of the Department of Medicine to define a core set of objectives. Each attending can then add whatever he thinks is important, but it is crucial that the main set of objectives is departmental. This affords some control of teaching, and it informs what one should teach or learn in a particular situation at a particular time. There will be some who will argue that it is not worthwhile to define objectives for the medical clerkship; everyone knows them because they are obvious. This, of course, is not the way it is. Each attending or resident can have a different set. Some think the medicine clerkship should be where

students learn to manage patients; others think it is the place to learn to do a good history and physical examination; and still others feel the clerkship is where a student begins to understand the process and pathophysiology of disease. The questionnaire results indicated that most students regarded the main objectives of the medicine clerkships to be to learn to be comfortable and competent in examining patients and to achieve an understanding of basic disease processes and their consequences. It is clear that not everyone has the same idea about what the objectives of the medicine clerkships are or should be.

Do students and teachers prefer having goals and objectives defined? The answer is yes. (Hiss, 1974; Kane, 1973; Kent, 1974; H. Levine, 1973; Printen, 1973; Tremonti, 1974). One hundred percent of the Yale students questioned thought it was important for goals and objectives to be defined. More than half of the students surveyed indicated that they had had goals and objectives defined for them on medicine clerkships, and most often (41% and 60%, first and second clerkships, respectively) the resident was the one who defined the goals. Unfortunately, objectives once defined were only sporadically met according to students (about 40% of the time).

Evaluation of the Student

In a professional school that confers a degree that has a definite meaning for society, evaluation is inescapable and necessary. Society demands it. The question is, how is it to be effective to all concerned?

As previously mentioned, evaluation is tightly linked with defining goals and objectives. "Evaluation entails determination of objectives and appraisal of progress toward them. Appraisal of the student's progress

involves appropriate measurement and subsequent comparison with a criterion." (Miller, 1961, p. 199) Evaluation, therefore, should not be a stagnant process. Whether teachers know it, they compare in their minds what the student was like in the first week of his clerkship to the last week. (Kane, 1973) Evaluation is and should be a dynamic, continuous process. Furthermore, a student should know in what he is being evaluated, and he should know how he is progressing toward the stated objectives. Otherwise, a student may begin and end the clerkship without any "feedback" along the way and find after six weeks that he did poorly when he thought "all was well".

Yale students state that they are not told what they are going to be evaluated in (82% and 94% not told in first and second medicine clerkships, respectively) despite the fact that goals and objectives were usually defined (76% first clerkship, 87% second clerkship) and despite the fact that 82% of students surveyed believe it is a good idea for students to know what they are going to be evaluated in. Interestingly, 74% of students knew at the beginning of the second clerkship what skills they would be evaluated in (only 12% knew at the beginning of first clerkship) regardless of whether they were told. The explanation was that students knew what their evaluations from the first clerkship entailed. Unfortunately, only 29% of students on the first medicine clerkship and 27% on the second were informed in the middle of the clerkship about how well or poorly they were progressing. On the other hand, however, certain services (Dr. Robert Donaldson, Professor of Medicine at Yale and Chief of Medicine at the Veterans Administration Hospital) believe that six weeks is too short an amount of time for the entire clerkship to be able to assess someone's

progress at three weeks. There is a period of adjustment that is only ending around three weeks and evaluations would be better if clerkships were longer. (Dr. Robert Donaldson, personal communication)

Continual feedback gives a student perspective on his strengths and weakness; therefore, he can adjust accordingly before forming incorrect habits or developing false impressions. It is a mechanism for always keeping someone guided in the right direction.

Yet the student's assessment of his own performance is also crucial to determining how effective evaluation is. If there is a large discrepancy between the evaluator and the student, something is amiss and should be disclosed. In essence, merely asking the question, "Please judge whether the evaluators appreciation of your sense of worth correlated with your own," serves two important functions. First, it checks the evaluation system for its fairness in the students opinion. Secondly, it tells the student that he should be evaluating himself and be honest about that self-assessment. This should be one of the goals of medical education, for the physician must be self-directed and a perpetual student.

In general, Yale students felt that there was a good or excellent correlation with their self-evaluation and that of their evaluators (64% first clerkship and 66% second clerkship). This is obviously an important fact for the faculty. It indicates that a good percentage of students believe that the present evaluation system on medical clerkships is fair. The percentages, also indicate, however, that there is room for improvement from faculty and students in their respective roles.

Evaluations from different persons involved in different capacities

may reflect very different approaches to the assessment of a student's performance. For example, an intern's evaluation may reflect the student's problem solving ability at the bedside; whereas, the attending's may reflect how well the student answered questions concerning bilirubin metabolism during didactic sessions. Which is more important? Certainly, both have their place, and an attending usually has more experience dealing with students. However, an evaluation is only good if it measures and reveals how well a student is progressing toward the objectives of the clerkship and the medical curriculum as a whole. Furthermore, more than one evaluation gives that much more information and from differing viewpoints. All evaluations, therefore, are probably equally important.

The problem of different people evaluating students has been studied somewhat. (Oaks, 1969) That project attempted to correlate the accuracy of overall grades with faculty rank and concluded that residents and full professors assign a proportionally greater number of inaccurate grades than assistant professors, associate professors, and instructors. The authors of this study speculated that although residents are in closer contact with students than faculty members, their inexperience and inability to keep personal biases from influencing their judgement has a deleterious effect on their student evaluations. Moreover, full professors often depend on the resident for information since as full professors they spend very little time on the ward.

It is clear, therefore, that each different evaluator has a different perspective to offer. Each is valuable to the student and to the medical school.

Contact with teachers will be discussed later in this paper, but a crucial point must be mentioned here. A good evaluation requires time with the student and seeing the student in a variety of circumstances. An evaluation of students from an attending who meets in conference three hours per week with students and house staff and does not read student work-ups (two such attendings were mentioned by respondents) is certainly an evaluation that is inferior to an intern's merely on the basis of time spent with the students. Much can be said for quality rather than quantity, but there are limits. Furthermore, if for some reason the attending's evaluation is regarded as the most important for the Dean, then that is unfair regardless of how much insight an attending may possess.

As alluded to above, there are many ways to evaluate, to measure. There are two pitfalls to be avoided in evaluations. (Miller, et al, 1961, p. 280) One is overdependence on a single evaluative procedure, a practice usually accompanied by the conviction that circumstances of measurement are adequate, and there can be little improvement. The other is the belief that no evaluative device can be valuable, and there is no better way than subjective impressions of skilled teachers. Using various methods to evaluate depicts more completely the student's (and the faculty's) ability as well as focusing on different aspects of that ability. Subjective impressions of skilled teachers are valuable, but they definitely lack consistency and uniformity in trying to assess a student's progress toward clearly stated objectives. Undoubtedly, a subjective appraisal is a component of an effective evaluation, but it is not the total answer. The same, of course, can be said about student evaluations of teachers.

Modes of Teaching

The style and format that a teacher employs can be directly related to student learning. (Gessner, 1973; Rodin, 1972; Coppernoll, 1974; Feinstein, 1967; Harvey, 1940; Hayes, 1971; Miller, 1961; Zelby, 1974). Undoubtedly, a student should bear significant responsibility for his learning, but a teacher can make that learning more effective and enjoyable depending on the techniques he employs. It is important to note that because someone is trained as a doctor does not mean that he is a good teacher. After all, professional teachers go to school to learn how to teach. Most physicians have gone to school to learn how to be a physician, not a teacher. It seems that in the present system the most significant qualification for a physician as a teacher is that he went to school for a long time. It is clear, therefore, that physicians need "feedback" about how they teach.

The importance of a teacher's style and method cannot be over-emphasized. "The primary failure of contemporary medical education and the failures of its attendant and predictable systems of medical practice, lie not in what is or is not taught but in how it is taught." (Graham, 1969) This, of course, is not to say that content is unimportant. At the University of Southern California an actor was hired to deliver a lecture that was nearly incoherent. The students rated the lecture quite favorably. (Ware, et al, 1970) The happy student, therefore, is not necessarily the informed student.

It should also readily be apparent that certain modes of teaching are better employed for certain aspects of education. For example, a lecture is a very good mode to use to teach factual knowledge, but it is

an inferior mode to use when teaching physical diagnosis. The ward is, indeed, the best place to learn in medical school. It is there that the student faces real and immediate problems. It is the world he will live in, and the educational experience is more vivid because of direct connection with ultimate goals. The classroom by comparison is a world of make-believe. The atmosphere of the ward, in fact, is so ideal that the student learns in spite of his teachers, which points to the need to evaluate teaching as well as students. (Miller, p. 138)

Good learning does not necessarily mean good teaching.

The evaluation form lists five selected desirable, general characteristics to be taught in some manner on the clinical clerkships. At the University of Tennessee (Coppernoll, 1974), the best modes of instruction for these five categories overall were clerkship, ward rounds, and self-instruction. The authors interpreted the result as reflecting the new trend toward developing problem solving ability and initiative in future physicians rather than trying to teach information that may be outdated soon. (Peabody, 1927)

Clearly, the five characteristics mentioned in the evaluation form are crucial, but on the clerkship the one that stands pre-eminent is problem solving--or the basic utilization of learning when facing a new situation. (Miller, 1961, p. 62) The literature is filling rapidly with articles pertaining to problem solving, its teaching, and its evaluation. (Palva, 1974; Berner, 1974; Van Wart, 1974) These articles and others deal with problem solving in a broader context than the ward, but it is the ward that is most conducive to teaching problem solving.

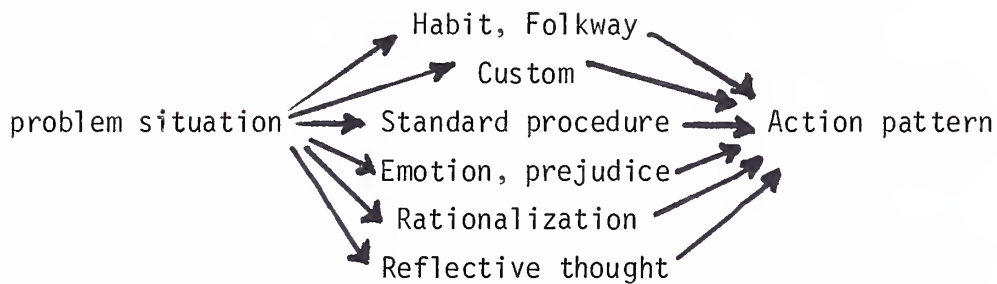
"Conducting teaching in a way that provides the student with an

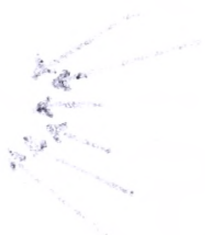
opportunity to acquire skill in problem solving probably requires more thoughtful preparation than any other instructional technique." (Miller, 1961, p. 139) It requires the teacher to analyze critically his own thinking, and it requires him to discover in a comfortable manner the way students are thinking. Naturally, there are a variety of methods in problem solving (see chart, p. 51), but the student must be encouraged to develop his own habits and customs and to challenge his teacher's reasoning. The key, however, is that the student's own conclusions are reached through an analysis of evidence, not passively accepted through an authority figure. The result will be a thinking student-physician.

It should be noted, however, that the case presentation method of clinical teaching which is used extensively at Yale and which many teachers regard as an ideal way to teach and assess problem solving has encountered sharp criticism. (Engel, 1971; Wiener, 1974) The main criticisms are that the case presentation method is limited by its lack of attention to the techniques of clinical data collection, and it has a tendency to deal with abstractions rather than patients. Too often a student's database is accepted without question, and the conference proceeds to diagnosis and management when in fact the method and innuendos of data collection may have a very significant impact on the diagnosis and management. Engel and Wiener suggest that students and teachers go to the bedside where a student who does not know the patient conducts a brief interview before the group. A discussion follows which generates hypotheses which are validated by additional history, examination, and lab studies supplied by the student who did work-up the patient. The group can return to the bedside to show how that data and other data should be elicited. Lastly,

the instructor should demonstrate how he handles the limited data and how he works with the patient.

Example of the variety of methods used in problem solving. (From Miller, et al, p. 141)





Engel has listed no fewer than seven distinct advantages of this method over the standard case presentation method, and he claims it only takes a little more time. Undoubtedly, this method, as outlined, is one which thoroughly explores, teaches, demonstrates, and evaluates problem solving ability.

One should certainly not de-emphasize other skills such as behavior and attitude and communication. Too often in striving for technical excellence, these skills, which are crucial in dealing with patients, and co-workers are severely neglected. (Graham, 1969; Harvey, 1940; Peabody, 1927; Feinstein, 1967)

In ascertaining what methods of teaching students prefer, some caveats are in order. As mentioned previously, students can rave about a lecture from which they learn little. Furthermore, each student has his own style which is best suited to him and his idiosyncracies. For example, it was found that science oriented medical students prefer a dependent learning style, while people oriented students prefer an independent learning style. (Olmstead, 1973) Each is attracted to medicine for different reasons, and each may have different learning preferences. Generalizations, therefore, are not in order, but teachers can only improve by knowing how students liked their techniques and what techniques they might have preferred.

Whatever the method employed its goal should be to decrease forgetting and make original learning more rapid. Unfortunately, even when teaching preferences of students are known there may be no adjustment or dialogue. (Byrne, 1973) Then again, there may be. (Rous, 1971; Rous, 1972)

This section more than any other was aided in its final form by

the student questionnaire. As will be readily apparent by comparison, it was decided that this section should be fairly open-ended, simple, and general.

Despite the lack of similarity between the questionnaire and the final teaching evaluation form, some of the results from the questionnaire are worth pondering. For example, the answers to question 15, repeated in the chart below, reveal how students felt they were taught in five presumed crucial areas.

<u>Skill</u>	<u>Ratings by percentage (1st & 2nd clerkships combined)</u>				
	<u>VG</u>	<u>G</u>	<u>F</u>	<u>P</u>	<u>NA</u>
Communication skills with patient	3.1	6.2	9.4	31.5	50
Factual knowledge	28	34.5	22	9.4	6.2
Clinical problem solving	19	25	44	9.4	3.1
Lab skills, i.e. gram stains, cultures, venipuncture, etc.	22	34.5	25	9.4	9.4
Professional behavior and attitudes	3.1	28	19	28	22

As will be seen later, there is a discrepancy between the answers to this section and those for the competency of teachers section which indicated the need to expand the later portion to include residents. The most glaring example of this is in the first category, communication skills, where 50 percent of the answers indicated that such a skill was not even taught. Yet, 43 percent of the answers in section V indicated that attendings were good at conveying compassion and concern for the individual. These two areas are not exactly similar, but students do learn by observation; and seeing an attending communicate with patients should help a student to learn. Problem solving correlated fairly well.

Most students were highly critical of the observed behavior and attitudes that they see displayed on the wards. Whether that is a function of the individual, the system, or both is unknown. At any rate, this section (III) and the competency section (V) can serve in some degree to be checks on each other.

A somewhat peculiar statistic was that on the first clerkship, the resident was the one who did the most teaching, but on the second it was the intern. One may speculate that second rotating students are more involved with the management of patients, and this may, therefore, reflect a closer contact with the intern.

It was generally felt that a resident's ward responsibilities did not help or hinder his teaching, but that it assuredly hindered an intern's teaching of students. Ideally students would like someone who knew the patients well but was not required to be totally involved with patient care. This, of course, sounds like the attending, but under the present system students prefer the resident (cf. section on contact with teacher) because he knows the patients.

It is clear from reading the questionnaires that students prefer modes of teaching that involve the personal touch. Student rounds, bedside teaching, socratic dialogue, and "on the go" discussions with house staff were repeatedly mentioned by students as the ways they were taught best and the ways that they wish were employed more. Students also enjoyed structured lectures on general clinical topics. Although they like problem solving teaching methods very much, they felt that these sessions could be organized better by the teachers. No doubt there is a lack of experience in teaching problem solving, but it is reassuring that it is

taught and that students find it very useful.

One problem solving approach that drew praise was at the Veteran's Hospital where a student was given ten or fifteen minutes to do a brief history and physical on a specific body region. The student then reported his findings to an attending or resident who returned to the bedside with the student and discussed the history and physical findings. The whole session usually lasted only an hour and offered the student a very personal, individual approach.

Student-Teacher Contact

This section is an attempt to assess the quantity and some of the quality of student and teacher interaction. It is assumed that student time with residents and interns is adequate since they are all on the ward all day. This is not to judge, however, the quality of the learning experience with the house staff despite the presumed adequate amount of time.

By nature of his position and experience in the medical center, the attending can have a profound influence on the student. In fact, his evaluation of the student may be the most highly regarded by the medical school administration. The teaching evaluation form, therefore, attempts to quantify the attending's contact with students. For example, it would be valuable to know that an attending spent three hours per week teaching, but that none of those were with students alone. That kind of fact should rightly detract from the validity of the attending's evaluation. On the other hand, one cannot assume that teaching was not excellent and adequate if the attending spent only three hours per week on the ward. The quantification, however, adds useful information to interpretation of the attending's evaluation of the student, and it gives an estimate of the attending's dedication to

teaching.

Yale students were nearly evenly split (53% yes and 47% yes, first and second clerkships, respectively) as to whether they thought they had had enough contact with their attendings. Some of the comments that accompanied that question were interesting. Several students said that they had had enough contact with their attendings because they were poor attendings and that even one hour per week was too much. By the same token, some attendings were so good that even five hours per week alone with those teachers were not enough. Most attendings spend up to five hours per week in a teaching capacity on the ward (59% first clerkship, 66% second) and usually an average of two hours per week is spent exclusively with the medical students. Whether that is enough time, of course, depends on the quality of the teaching.

With medical school curricula offering clinical correlations in the early years of training and with the increased numbers of medical students, departments of medicine find themselves heavily burdened with teaching commitments. (Petersdorf, 1974) Teacher-student contact cannot be over-emphasized, for the teacher may become a significant role-model for the student. Samuel Harvey, in fact, thought that was one of the best and most effective ways to teach. "It seems apparent then that these qualities of integrity, intelligence, capacity for work, judgement, and skill in the use of the scientific method, none can be best taught by the traditional didactic and obligatory methods. They must all be learned by the student from example...Bring him into working contact with a senior person of integrity, of high intelligence of great capacity for initiating and sustaining work, of sound judgement, and one constantly employing the scientific method

in the solution of problems, and a sound approach will have been made toward the objectives which the school of medicine should have in view." (Harvey, 1940, p. 850-1)

The role-model is critical, but it can have possible deleterious effects. At Johns Hopkins a study (Levine and Bonito, 1972) found that the start of a medical student's clinical training is a turning point in the educational process beyond which student physician's attitudes toward changes in medical practice are nearly identical with those in the faculty. Students need role-models, and one would like to think that they find them. On the medicine clerkships, students find role-models among attendings, residents, and interns in a fairly even distribution, (29% and 13% attendings, 18% and 40% residents, 24% and 26.5% interns). This interesting fact may reflect a couple of reasons. A role-model may be developed more from attitudes than ability, or because attendings spend less time on the ward, there was less time for students to be exposed to them and thereby have them become role-models.

A study at the University of Toronto Medical School (Byrne and Cohen, 1973) found that students regarded the resident as being the most helpful person on the clerkship. Yale students agree. Perhaps the students at Toronto would have liked the attendings to have been the most valuable teacher, but because of time or whatever, he was not the most helpful. It is clear that residents and interns have tremendous ward responsibilities, and students may wish to have teachers who can devote more time to them personally. In the survey, however, Yale students believe (59% to 35%) that the resident should have the most teaching responsibility on the medical clerkships. The reason most often stated is that the resident

knows the patients best. The reasons most often stated for the attending are that he has more time and has more experience.

Finally, a learning experience on the ward where there is close contact among teachers and students is bound to be hampered if there are communication difficulties. Furthermore, knowing how a teacher and student related to one another gives an observer such as the person in charge of the medical clerkships an idea of the biases behind a teacher's evaluation or a student's. Yale students generally rated their communication with residents and interns as good or very good, but rated it with attendings as poor or fair. Again one can only assume that possible explanations for this are that attendings are not present enough to develop rapport with students, or that because residents and interns are closer to students in age and experience that there is an almost automatic rapport between those groups.

Competency of Teachers

In essence, the entire evaluation form assesses the competency of the faculty and house staff as teachers on the internal medicine clerkships. This section, however, is a bit more traditional and has two parts.

The first ascertains student opinion about important teaching qualities. (Ettinger and Noyes, 1971) The results from the questionnaire are repeated in a chart below. The second part of this section is intertwined with the modes of teaching section. It tries to discover what effort is made by teachers to evaluate and teach how the students think. As alluded to previously, with the rapidly expanding body of knowledge, what matters is not so much what a student knows, but how he handles knowledge and data. (Miller, 1961; Peabody, 1927) Each patient in medicine presents a completely

unique problem, and a physician should be able to manage it well because he knows how to think and to apply sound fundamentals. It only makes sense, therefore, that teachers try to teach this as well as assess how well students are learning it.

This whole section also attempts to savor some of the atmosphere that teachers create. For example, the questions in this section should reveal whether teachers regard student's queries as challenges or attacks; whether there is constructive feedback and dialogue; and whether there is an attempt to relieve the anxiety of not knowing by the satisfaction of knowing and thereby make "not knowing" an exciting, challenging emotion of curiosity, rather than the depressing emotion of hopelessness.

Lastly, this section consciously focused mostly on the attending in the questionnaire. It was felt that the attending more than anyone carries the designation of teacher by dint of his knowledge, experience, responsibility, and position as an academic physician. It was clear from the responses throughout the entire questionnaire that students regard the resident as an important teacher. Consequently, this section was expanded in the final teaching evaluation form to include the resident. One might argue, however, that teaching should be the primary responsibility of the attending and patient care the prime responsibility of the resident.

Question #30

<u>Skill</u>	<u>Percent Responses</u>				
	<u>VG</u>	<u>G</u>	<u>F</u>	<u>P</u>	<u>TI</u>
Depth and newness of knowledge	44	28	9.4	9.4	9.4
Admits to lack of knowledge when appropriate	22	47	22	28	0
Ability to convey information	25	28	28	19	0
Ability to clarify complex issues	19	34.5	28	15.6	3.1
Receptivity to new ideas or criticisms	12.5	19	22	9.4	<u>37.5</u>
Genuine interest in teaching	41	28	19	12.5	0
Willingness to devote extra time to student problems	19	28	22	25	6
Stimulating teacher	19	22	12.5	<u>34.5</u>	12.5
Ability to teach analytical approach to clinical problems	12.5	44	25	15.6	3.1
In relating to patients, conveys compassion and concern for the individual	9.4	44	22	12.5	12.5
Teaches utilization of paramedical personnel in patient care	3.1	9.5	22	19	47
Provision of references	19	31.5	12.5	28	9.4

As can be seen readily, most attendings received good ratings. The most glaring exceptions were in the categories of stimulating teacher, teaching utilization of paramedical personnel, and receptivity to new ideas or criticisms.

Surprisingly, 88 percent of students surveyed answered affirmatively to question #31 either on one clerkship or both. All those who had this experience, thought it was beneficial, two-thirds believed that such sessions were conducted comfortably, and the frequency of such interactions

was a few times (2/3) or often (1/3). This is very encouraging information. There are some qualifications, however, which were taken into account in writing this question for the final evaluation form. Although the questions referred to attendings and/or residents, one-third of the students wrote in that the interns were the ones who were most active in doing this. Naturally, there were all gradations to the quality, style, content, and mechanics of such dialogues which varied with each individual instructor. The very positive response of students to this kind of teaching technique indicates that it should be used extensively.

History and Physical Exam

"Among our own students ready to graduate, not to mention interns coming from other schools, we have encountered many individuals who were seriously deficient in their ability to elicit a history or to perform a physical examination."

William Morgan and George Engel
The Clinical Approach to the Patient
p. viii.

An integral facet of the education of a physician, of course, is learning to do a history and physical exam and set forth a management plan. It is the foundation of nearly every encounter between doctor and patient. Needless to say, therefore, it becomes an important aspect of every clerkship. For some reason, however, the teaching of the "work-up" has special significance on the internal medicine clerkships. It is not clear why this is the case. Perhaps there is not enough time spent on pediatrics; perhaps the medical school has charged the responsibility of teaching histories and physicals to the Department of Medicine; perhaps specialties like surgery or obstetrics do not emphasize the total history and physical the way internists do. Nevertheless, at Yale, it is a fair assumption that the history and physical examination, patient formulations, and the criticism of same have special significance for students on the internal medicine clerkships. If for nothing else, the emphasis is just lacking at present from the other clerkships except, perhaps, for pediatrics.

Since the history and physical exam is such an important aspect of the clerkship, and since it forms an ideal vehicle for the student to consolidate data and formulate diagnostic and therapeutic plans, it is logical to ascertain the role of such an exercise in the clerkship experience.

Furthermore, since the "write-up" is where a student puts his ideas and his findings on paper, it is an ideal tool to use for learning and evaluating purposes.

For the above reasons, therefore, the teaching evaluation form tries to quantify and specify the use of the history and physical as a learning device. It is important then to discover whether students had examples to follow; whether students were observed in order to foster constructive criticism and identify bad habits early; whether putting their findings and plans on paper was a useful and worthwhile exercise; whether and how teachers taught and corrected the student's efforts; whether criticisms were beneficial to the student; and lastly, whether such an intense, important exercise was satisfying to the student.

As can be seen from the questionnaire results and charts, there are several interesting, if not alarming, facts that this section reveals from the student questionnaire. As expected, students felt that they gradually improved their history and physical examination skills from the beginning of the first clerkship to the end of the second. However, hardly any student was observed doing a history or physical by an attending or resident; yet nearly all students think that this would be a helpful exercise. Furthermore, although students generally found comments on their write-ups very useful, it was uncommon for the reviewer to return with the student to the patient's bedside to compare and discuss points about the history and physical, and it was likewise uncommon for the reviewer and student to get together at all to actively discuss the work-up. On the other hand, it was more the rule than not that students watched someone else do a history and physical, usually the attending or

intern. This is certainly a helpful exercise, but it is much more passive than having a teacher watch and then comment about the student's capabilities. Lastly, most students did not find doing a history and physical and writing it up for review a very satisfying endeavor. It is unknown whether this reflects disinterest by teachers or pure disinterest by students, but it is an unfortunate commentary.

These data are certainly preliminary, but suggestive. They do indicate the importance of this section in the questionnaire by raising certain speculations. Are students being neglected in the development of very fundamental skills? Maybe the clerkship is not the place where these skills should be taught and overseen. (What are the goals and objectives?) Nevertheless, the students claim that write-ups were a fairly important aspect of the clerkships, and they add further that this is proper. It is hard to divorce the write-ups from the data gathering procedure of doing a history, but fairly good and useful attention is paid to them. More though is clearly in order. Of course, it would be useful to know what the house staff and faculty think about this matter.

The data of this particular section point to the extreme, but simple usefulness of this section. There are many things to be learned on a medicine clerkship, but no one can deny the importance of examining a patient, summarising the findings, and formulating a diagnosis or diagnostic plan and subsequent therapy. It is the hallmark of being a physician, and it is the essence of the practical application of the scientific method. Undoubtedly, therefore, there has to be some feedback, some monitoring system, that assesses the nature and quality of instruction in this vital area.

Without repeating what has been said earlier, there has been a mild exclamation for more teaching at the patient's bedside on medicine clerkships. (Engel, 1971; Wiener, 1974) Too often the case presentation method used at Yale neglects the patient and the process and art of data gathering from a history and physical examination. Both Wiener and Engel have employed successfully a method whereby the ward team goes directly to the patients' bedside to discuss and teach what was previously relegated to a conference room. Both authors claim that not only does the student benefit by having people watch and comment about his skills in person, but also the patient benefits in that the data base is more accurate and that he feels he is getting maximal attention.

Significance of the Clerkship

This section emphasizes the clerkship as it effects the student's development. It is a hard section to answer, for it requires introspection and self-criticism. It is the self-assessment aspect to this section that makes it valuable. As Miller, et al, have emphasized, the ward is a fantastic place to learn regardless of the quality of teaching. This section, therefore, tries to divorce itself from teaching somewhat and have the student confront what he did or did not gain from the clerkship experience. Of course, the separation may be at best a superficial one.

This is an important section for teachers as well. It indicates whether the clerkship was effective to the student regardless of the answers to the previous sections. Some of the questions, however, such as "effect on future in medicine" maybe answered better when there has been some time away from the clerkship. The plan for the formal teaching evaluation form is that it be administered very soon after the clerkship.

If the answers to this section are very positive about the clerkship experience, does that negate the previous sections of the evaluation form? No; it merely verifies what Miller, et al, have said, that students will learn regardless on the ward, but it does indicate that students could learn better with improved teaching.

The questionnaire results do in fact show that a majority of students had fairly good ratings for the clerkship. It is also obvious, however, that there is a need for improvement.

This section, perhaps more than any other, indicates what those weeks on the internal medicine clerkships really meant to the student. Those twelve weeks could and should have an effect on a student's future. Of the students polled, 88% thought that the medicine clerkships had an effect on their futures. This effect may have been positive or negative, and the summaries reveal some of those responses. Medical students are having to decide sooner whether they want to be a psychiatrist, surgeon, internist, etc., and it is important, therefore, that the medicine clerkship help a student decide if he wants to do training in internal medicine.

Two very revealing queries about the clerkship are numbers 60 and 61 which are included also in the final evaluation form. The answers to these questions expose the very basic attitudes in the medical profession. Alarming, less than half of the students polled could state affirmatively that the medical profession was portrayed in such a way that they, as future physicians, wanted to identify with it. What are the feelings about the surgery or pediatric clerkships? Is the same true on medicine clerkships at other schools? Can the Department of Medicine with effective

spiritual leadership change this?

Question #61 comments about the atmosphere, the pressure and the competitiveness of medical school. These two questions, serve as a useful guide to how faculty are progressing in developing the kind of teaching-learning atmosphere that they should ultimately desire. Much, of course, has nothing to do with Yale Medical School, but much does. These questions are very emotional, but they are revealing about the clerkship experience and medical education.

Student-Faculty Evaluation in General

It is clear from the preliminary questionnaire results that there is a need for a teaching evaluation form. All students surveyed thought it was a good idea for students to evaluate teaching. Furthermore, in the last several years an increase in the utilization of student ratings of instructors has been reported as a major criterion of teaching effectiveness. (Slobin, et al, 1969) Several other questions must be considered, however, before a teaching evaluation form can have validity. Other than allowing students to verbalize, are there any other features from which the student can benefit personally? In general, how valid are student criticisms anyway? Will teachers be receptive to student evaluations? Is evaluation of teaching the answer to improving education in medical school?

The first question has been answered partially in the introduction. Basically, it is the opinion of this writer using his experience studying medical education. Students should benefit in two definite, interrelated ways. The student who uses the evaluation form will be engaging in self-assessment. This is because any evaluation of teaching cannot ignore that what students learn must be a factor in the equation of a teaching evaluation formula. In other words, a student can answer the first six parts of the teaching evaluation form and conclude that teaching was poor, but finds in section seven that he learned quite a bit from the clerkship experience. This may only reflect that the ward is a superb place to learn regardless of the quality of teaching. On the other hand, the student may realize that teaching was actually very good and that what he thought was poor before doing the evaluation form was based on purely

subjective criteria. The student, therefore, must address himself to what he actually learned on the clerkship and what impact teaching had on that outcome. At Yale Medical School this is part of the foundation of its educational philosophy. Since physicians do not have people continually policing whether they are educating themselves (at least not yet), self-assessment becomes critical, and it is encouraged at Yale. The teaching evaluation form forces the respondent to take several minutes to do some self-assessing for one specific, but crucial aspect of his medical education. The student estimates where he thinks his strengths and weaknesses are and can adjust accordingly. At the same time, of course, teachers are evaluating the student. A comparison of these respective evaluations would be informative and quite useful for the student.

The second benefit students will derive is from criticizing teaching. Medical students are usually very vocal about teaching, but they tend to be non-specific and subjective. Certainly, part of the reason is that they do not have a vehicle for such expression. As stated earlier, thinking about the teaching process makes a student consider critically and in depth the way material was presented to him. He must try to see the conceptual framework of the facts, not just the facts themselves. This makes him a "better student" for the future and may enhance his comprehension of medical facts. Additionally, the student places himself in the position of being the teacher when he must evaluate. "How would I have presented that material to make it more effective?" "Was the use of that material really relevant?" Since there is no training for physicians to be teachers, except what they learn by going through the process of

becoming a physician, the evaluation is an indirect, subtle way that helps the student comprehend the difficulties of being a good teacher.

What about the validity of student evaluations of their teachers?

There is a great range of opinion concerning this matter. At one extreme are the Rous studies (Rous, 1971; Rous, 1972), where student opinion is regarded as the most important factor in determining the quality of teaching, and the validity of student evaluations is not questioned. These studies believe students are the consumers of the medical educational process and should have the final opinion. Furthermore, the Rous studies suggest that medical students are advanced enough in educational process to accurately appraise teaching. "Since it is the learner himself who must judge how best he learns, it is clear that the principal evaluation of teaching skills must be done by the learner." (Rous, 1972)

In recent years there have been several studies appearing in Science that shed light on the subject of student-faculty evaluation. These reports do not focus necessarily on medical school, but their conclusions are certainly applicable to any school using or thinking of using student evaluations of faculty. It is clear from reviewing these studies that methodology and types of evaluation form can have a bearing on conclusions.

All of these studies tried in some manner to correlate student evaluations of teaching with what students learned. In other words, student opinion was not enough; it had to be substantiated with effective learning as another parameter. The most amazing of these studies is the one by the Rodins (Rodin, 1972) who concluded that students rate most highly the instructors from whom they learn the least! They have no obvious explanation for this negative correlation. "Perhaps students do not wish so much to

maximize the amount learned as to reach an equitable compromise between the effort involved in learning and the perceived importance of what is being learned. Or, in short, perhaps students resent instructors who force them to work too hard and learn more than they wish." Furthermore, the paper suggests that students maybe more impressed with who an instructor is rather than what he does.

The glaring results of the Rodin study may reflect the fact it was conducted at an undergraduate level. Even the authors admit "that as students learn more, they become better able to detect weaknesses of their instructors." Furthermore, the examination procedure reflected how much the students learned from the instructors they were rating, namely, the teaching assistants. Yet, the major portion of the course was lectures given by a professor. It was also this professor who constructed the problems that formed the nucleus of the student and teaching assistant learning sessions. The teaching assistants role was also to answer questions and explain points about the lectures. Evaluation, therefore, may have reflected how well the teaching assistant was "in tune" with the professor. If some students found the professor's approach dissatisfying and tended to rate highest those teaching assistants who departed from the professor's approach, then it might be expected that those students would not fare as well on the evaluative device designed by the professor. Lastly, to evaluate only teaching assistants as teachers probably skews the results. They are usually inexperienced instructors. Many may be only two or three years ahead of the undergraduates. This might have been their first teaching opportunity and, hence, was an experiment for them as well as the students.

Gessner (Gessner, 1973) reached different conclusions. Comparing medical student evaluations of teachers in a basic science course to their performance in a national normative examination, he found a high correlation between student ratings and class performance on the examination. On the other hand, he found no correlation between student ratings and class performance on an institutional exam. Gessner is quick to emphasize (which Rodin was not) that an objective examination, as they used, is open to challenge as a tool to measure teaching effectiveness. Some objections are that the exam tends to measure recall and often reflects the subjective views of the people that create the exam. The high correlation (.77 and .69 in class performance in 20 subject areas on a national exam and the student ratings of the content and organization and of the presentation of course instruction in these areas, respectively, $p < .001$) however, establishes the validity of student ratings and class performance on national normative examinations as measures of teaching. Gessner suggests that the low correlation on the institutional exam ($r = .11$ for content and organization; $r = .17$ for presentation) points to the problems inherent in using class performance on internal examinations as a measure of the teaching effectiveness of the faculty. The problem here, however, is when a faculty, Yale's for example, does not want to compare itself or its students to a national norm. The answer may lie in comparing itself to schools with which it identifies, such as Harvard, Stamford, Johns Hopkins, etc. Once again, however, the perplexing question may be asked, "Is an exam the way to measure teaching effectiveness?" It is one way.

What about the teachers? Will they be receptive to teaching evaluations?

"It is no secret that the products of our medical schools have been something less than spontaneous in their efforts at systematic self-evaluation or in their welcoming of outside efforts to secure measures of the quality of their performance. This should come as no surprise, as it is equally no secret that their teachers have been something less than active proponents of accountability, either in their performance as instructors or in their teaching about medical care. The simple truth is that faculty members in medical schools internationally, have enjoyed as extraordinary freedom from accountability and have certainly not exhibited any initiatives in generating critical assessments of their own effectiveness...The same academicians who have avoided any assessment of their instructional efforts have often been committed to continuing critique of their research work, about which they feel more secure and knowledgeable.

(Jason, 1974)

The change, therefore, will be a gradual one, and, as Jason alluded, the reason is insecurity because "teachers" in medical school do not think about teaching the way they think about research. They are not as confident. Teaching is something "extra". In fact, a recent study emphasizes the relationship between teaching and research. (Hayes, 1971) It attempted to answer three crucial questions: (1) Are research activity and teaching ability related to each other? (2) In what way do research activity and teaching ability influence classroom assignment? (3) In what way do research activity and teaching ability influence promotions? In a scholarly manner, Hayes reached interesting conclusions. The answer to the first question is unclear. For example, if one asks department heads who the best teachers are, they name the best researchers. If, however, one employs other measuring sticks, such as asking students, then there is no evidence that research activity and teaching ability are related. The

answers to the second and third questions, however, are clear. Individuals with high rank and high research ability tend to be assigned to high level classes. Teaching quality, however, is unrelated to classroom assignment. Promotions are strongly related to measures of research activity, but appear to be unrelated to teaching ability. Is it any wonder then that teaching is slighted and teaching accountability is greeted with disdain? After all, a faculty member's promotion hinges only on his research ability.

There are, however, indications that teachers will respond in some manner to student evaluations. Informally, this writer has noticed this in his personal experience, and there are reports appearing in the literature because of the growing importance of student-faculty evaluations. Probably the most significant study came from the New York Medical College where Rous, et al, devised an evaluation used by students and found that the teachers who participated in the study responded to their evaluations by making a statistically significant improvement in their teaching when re-evaluated at another time. (Rous, et al, 1971; Rous, et al, 1972) The study concluded that by identifying precisely an instructor's strengths and weaknesses, it would be possible for that instructor to improve upon the quality of his teaching.

There are two weak aspects to the Rous papers. First, as mentioned previously, students evaluations were the only measurement of teaching expertise. There was no attempt to determine whether students learned from "bad" teachers despite their being "bad". (cf. Rodin; Gessner) Secondly, the study was an experiment, and the teachers who participated were fully informed volunteers. One may conclude, therefore, that this eliminated those faculty members

who regarded evaluation as very threatening and chose not to participate. Moreover, it is usually the case that the least threatened members of the faculty and the ones most interested in education are among the very best teachers. They are the ones who naturally would respond to an evaluation system. Nevertheless, the precedent has been set: an evaluation form used by students to assess their instructors produced beneficial responses from the faculty.

There is one other interesting fact that becomes evident when studying the Rous paper. The evaluation form changed over time, and one would like to think for the better. Its use prompted comments and analysis that led to elimination, addition, or modification of some questions.

Leon W. Zelby, however, in a recent Science article is pessimistic about student-faculty evaluation, although he sees the need for such a tool. (Zelby, 1974) He reached the startling conclusion that teachers, if given the opportunity would teach for a good evaluation regardless of whether they thought they were teaching well. He, therefore, advises cautious development of evaluation forms. "Thus, the potential dangers of student-faculty evaluation in decreasing the effectiveness of education lie not in the evaluation proper, but in the format of the evaluation... Careless student-faculty evaluation, concerned only with the narrow aspect of teaching effectiveness--if this indeed can be unequivocally established--will inhibit educational experimentation and development, particularly if student-faculty evaluation are used formally in the determinations of salaries and promotions." This is why the proposed teaching evaluation form attempts to be comprehensive. Furthermore, he warns that administrators can rely heavily on evaluations as tangible proof that they are doing

something to improve teaching when, in fact, they are shirking their responsibility of exercising judgement in the evaluation of teaching performance. Evaluations must be designed to meet the expectations of students as well as the aspirations of the respective institutions. Clearly, therefore, evaluation forms or procedures must adapt to accommodate change and new developments as well as eliminate ambiguities and anachronisms.

The evaluation of teaching, therefore, by students can have many effects both beneficial and detrimental, but it is ludicrous that the prime consumers of medical education at Yale do not have any formal input into the evaluation of teaching on the clinical clerkships. Moreover, the students want it, and many faculty do, too. Despite the necessity for teaching evaluation forms, it is not the total solution. Many other mechanisms must be used to evaluate overall teaching effectiveness. The assessment of what the student has learned has been used extensively. A novel idea is to have observers evaluate clerkship activities of teachers and students without participating in the pedagogical activities of the clerkship. (Byrne and Cohen, 1973) Another study from the University of Southern California Medical School (Wolkon, et al, 1974) found it useful to have students and faculty evaluate instructors to improve teaching. The authors' reasoning was based on the differential response of faculty and students to the same lectures. Lastly, a medical school or university may want to develop a department of education on a par with the departments of medicine, surgery, etc. (Reif, 1974) This department would not only have trained physicians, but also trained educators or people who have thought about and studied education. This department could become the

bulwark of evaluating courses, clerkships, labs, etc. as well as teachers and students. It should offer courses in teaching and learning techniques, generate research in medical education, and develop new teaching devices. There are precedents for such departments at the University of California at Berkeley, Massachusetts Institute of Technology, University of Illinois at Urbana, and the University of Minnesota, but there are none that address themselves to medical education. "Traditional educational patterns are being perpetuated by universities with remarkably little questioning... Yet, it is apparent that education is a field ripe for significant development and offers promising opportunities for substantial progress... But the essential pre-requisite for progress is the adequate investment of first-rate talent..." (Reif, 1974)

The time has come, therefore, for medical faculties not only to be responsible for research, but also for teaching; for students to shoulder their responsibilities and to comment and criticize thoughtfully; and for there to be a substantial investment in medical education in terms of dollars and people.

Summary

Since there is no formal evaluation of clinical teaching at Yale Medical School, this project was undertaken to develop one means of evaluating teaching. It describes the formulation of a teaching evaluation form to be used by students to evaluate teaching on their internal medicine clerkships. The literature, personal experience, and student and faculty opinions were used in developing this form. With the increased recognition of the importance of student and faculty evaluation and the need for a means of assessing teaching for purposes of promotion, a teaching evaluation form is a valuable tool. Furthermore, it continually monitors student opinion of faculty teaching, and it provides teachers with "feedback" about their performances. Additionally, it should make suggestions about teaching techniques. Lastly, any evaluation system must be flexible to adapt to changing curricula demands and to any inherent shortcomings of the evaluation technique itself which are only manifested by usage. A teaching evaluation form, therefore, is one means of continually upgrading the quality of medical education.

Appendix I: Questionnaire I

DRAFT

STUDENT QUESTIONNAIRE

I. General Information

- A. Age
- B. Sex
- C. Class
- D. Previous Graduate School before Medical School?
- E. Future plans in medicine
- F. Medicine Clerkships -

Where Done

1st:

2nd:

II. Questions

1. Describe briefly how you felt your first few moments on the medicine clerkships.

1st

2nd

2. Who met with you to discuss the goals and objectives of the medicine clerkship?

	Attending	Resident	Intern	Other	No one
1st					
2nd	___	___	___	___	___

3. Do you think it important for someone to discuss with you the goals & objectives of the medicine clerkship experience?

___ Yes -- Who _____
___ No

4. Why or Why Not?

5. If objectives were defined for you, rate how well they were met.

	Very Good	Good	Fair	Poor	NA
1st					
2nd					

Questions (Cont'd)

6. At the beginning of your medicine clerkships did anyone explain to you the roles and duties of the clinical clerk?

_____ Yes -- Who _____ No _____

1st

2nd

7. Do you think it is important for someone to describe the role & duties of the clinical clerk to incoming medical students?

_____ Yes -- Who

_____ No

8. Why or Why Not?

9. At the beginning of your medicine clerkship were you told what areas & skills you would be evaluated in?

1st _____ Yes -- Who _____ No
2nd _____ Yes -- Who _____ No

10. Did you know what areas you would be evaluated in before you started the clerkship?

1st _____ Yes _____ No
2nd _____ Yes _____ No

11. If yes, how did you know?

12. Do you think that telling medical students exactly what areas they will be evaluated in is a good idea or bad idea? Why? Would it help or hinder learning?

13. Do you think that students should evaluate their ward teachers?

_____ Yes _____ No

Why or Why Not?

Questions (Cont'd)

14. If you do think that students should evaluate teachers, should this be required of students?

_____ Yes _____ No

15. Whose evaluation of students on medicine clerkships do you think is the most important for the Dean?

	Attending	Resident	Intern	Other	No one
1st	_____	_____	_____	_____	_____
2nd	_____	_____	_____	_____	_____

16. Who did the most teaching to you on your medicine clerkships?

	Attending	Resident	Intern	Other	Students	Other	No one
1st	_____	_____	_____	_____	_____	_____	_____
2nd	_____	_____	_____	_____	_____	_____	_____

17. Who should have the most responsibility for teaching students on their clerkships? Why?

18. Rate as to how well you think the listed areas were taught to you on your medical clerkships. Use the following rating scale:

VG - Very Good

G - Good

F - Fair

P - Poor

NA - Not Applicable (In this case meaning, not taught)

1st 2nd

- A. Communication Skills
- B. Factual Knowledge
- C. Clinical Problem Solving
- D. Lab & Clinical Skills
- E. Professional Behaviour & Attitudes

19. Using the same rating scale, rate how well you thought each skill was taught by various modes of teaching.
(NA - Not Applicable here infers that the teaching modality was not employed for the specific skill listed.)

	Communication Skills	Factual Knowledge	Problem Solving	Lab & Clinical	Behaviour & Attitude
Conference w/ Attending					
House Staff					
Conf. w/ Attending Alone					
Conf. w/ House Staff Alone					

Questions (Cont'd)

19. Continued.

	<u>Communication</u>	<u>Factual</u>	<u>Problem</u>	<u>Lab & Behaviour</u>	<u>&</u>
	<u>Skills</u>	<u>Knowledge</u>	<u>Solving</u>	<u>Clinical</u>	<u>Attitude</u>
Ward Work Rounds					
"Attending Rounds"					
Ward Rounds w/					
Attending Alone					
Bedside Teaching					
Reading					
Lectures					
Grand Rounds					
Other: _____					

COMMENTS:

20. Did you have enough contact with your attendings? Why or Why Not?

21. About how many hours per week did you meet with your attending?

0-5 Hrs. 5-10 Hrs. More than 10 Hrs.

1st
2nd

22. Of those hours how many were spent with only students and attending?

1st _____
2nd _____

23. What modes of teaching did your attending employ and rate how well you liked them. (Use same scale #18.)

1st
2nd

(* Designed as #24.)

24. What modes of teaching did the resident employ, and how would you rate them? (Use same scale as #18.)

MODE OF TEACHING:

RATING:

1st: _____ - _____
 _____ - _____
 _____ - _____

2nd: _____ - _____
 _____ - _____
 _____ - _____

Questions (Cont'd)

25. In your opinion did the responsibilities of the ward hinder the resident's teaching of students?

Often Sometimes Rarely Actually helped teaching

26. What modes of teaching did the interns employ and how would you rate them? (Use same scale as #18.)

MODE OF TEACHING:

RATING:

1st: _____ - _____.

_____ - _____.

_____ - _____.

2nd: _____ - _____.

_____ - _____.

_____ - _____.

27. Did patient load and duties deter from the intern's teaching of medical students?

Often Sometimes Rarely Actually helped teaching

28. Please comment about the modality of teaching you found most helpful and useful, and why?

29. Please indicate what other modes of teaching you might like to see employed and why?

30. Who should have the most teaching responsibility for medical students on the medical wards?

Attending Resident Interns Other: _____

Why?

31. Which person on the ward presented you with the best role-model of a competent physician?

	Attending	Resident	Intern	Other	No one
1st	_____	_____	_____	_____	_____
2nd	_____	_____	_____	_____	_____

Questions (Contd)

32. Rate communication with each of your teachers. (Use scale in #18.)

	Attending	Resident	Interns
1st	—	—	—
2nd	—	—	—

33. At some point, at most half-way through the clerkship, did someone tell you how well or how poorly you were progressing?

1st	—	Yes -- Who	—	No
2nd	—	Yes -- Who	—	No

34. Throughout the clerkship, were you getting feedback as to how well you were doing?

	Often	Sometimes	Rarely	Never
1st	—	—	—	—
2nd	—	—	—	—

35.

STUDENT QUESTIONNAIRE

7

Questions (Cont'd)

35. Rate your attending on the following using the rating scale below:

- VG - Very Good
- G - Good
- F - Fair
- P - Poor
- TI - Totally Inadequate

Attending
1st 2nd

Depth & Newness of Knowledge
Admits to Lack of Knowledge
When Appropriate
Ability to Convey Information
Ability to Clarify Complex Issues
Receptivity to New Ideas or Criticisms
Genuine Interest in Teaching
Willingness to Devote Extra Time to
Student Problems
Stimulating Teacher
Ability to Teach Analytical Approach to
Clinical Problems
In Relating to Patients, Conveys Compassion
& Concern for the Individual
Teaches Utilization of Paramedical Personnel
in Patient Care
Provision of References

COMMENTS:

36. Rate the following according to the scale in #35:
1st 2nd

- A. Usefulness of the Clerkship
for your Medical Education
- B. Teaching of the Approach &
Analyses of Clinical Problems
- C. Helpfulness of Criticism of your
Work Ups
- D. Your Learning to Develop Judgment
in Deciding on Patient Care
- E. Emphasis on Crucial
Material by Teachers
- F. Basic Science Correlations

Questions (Cont'd)

37. Please discuss whether the attending &/or resident actively encouraged you to discuss your impressions and formulations about a patient's care and disease, (i.e., differential diagnosis, pathophysiology treatment, prognosis, psychological adjustment to illness, relations with family).

Please indicate the frequency of such interactions, whether you benefitted from such discussions, and whether the discussions were conducted in a comfortable manner.

38. At the beginning of your first medicine clerkship, rate your competence at doing a history & physical using the rating scale in #35: _____.

39. Rate yourself at the beginning of your 2nd clerkship: _____.

40. If you have completed two medicine clerkships, rate your competence: _____.

41. How often did the attending watch you do a history?

	Often	A Few Times	Once	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

42. How often did the attending watch you do a physical examination?

	Often	A Few Times	Once	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

43. How often did the resident watch you do a history?

	Often	A Few Times	Once	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

Questions (Cont'd)

44. How often did the resident watch you do a physical examination?

	Often	A Few Times	Once	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

45. How often did you watch the following do a history & physical examination? Use the rating scale below:

- O - Often
- F - Few Times
- S - Once
- N - Never

		<u>History</u>	<u>Physical</u>
Attending	- 1st		
	2nd		
Resident	- 1st		
	2nd		
Interns	- 1st		
	2nd		

46. If you did have an attending or house staff officer watch you do a history & physical examination, would you say that it was a good learning experience for you?

_____ Yes _____ No _____ NA

Why or Why Not?

47. How important are "write ups" in your medicine clerkship learning experience?

1	2	3	4	5	
Very Important				Useless	

48. Please state some reasons for your previous answer:

49. Who reviewed your "write ups?"

	Intern	Resident	Attending
1st			
2nd	_____	_____	_____

50. Were the write ups usually returned promptly, say within 24 hours?

	Yes	No - When
1st		
2nd	_____	_____

Questions (Cont'd)

51. Were there comments, criticisms, etc., made by the reviewer on your write ups?

	Always	Sometimes	Rarely
1st	_____	_____	_____
2nd	_____	_____	_____

52. Did you find the comments generally helpful?

	Yes	No
1st	_____	_____
2nd	_____	_____

53. How often did you receive a write up that was graded only with a Good, Fair, etc, or a letter grade?

	Frequently	Sometimes	Rarely	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

54. On the average, how many write ups per week did you do?

1st	_____
2nd	_____

55. How often did the person who reviewed your write ups meet with you to discuss them?

	Nearly Always	(1/wk.) Sometimes	(1 every 2-3 wks.) Hardly Ever	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

56. How often did you try to meet with your reviewer to discuss the write up?

	Didn't Have To (See #55.)	Always	Sometimes	Hardly Ever	Never
1st	_____	_____	_____	_____	_____
2nd	_____	_____	_____	_____	_____

57. How often did the person who reviewed your write ups also work up the patient?

	Always	Sometimes	Rarely	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

Questions (Cont'd)

58. How often did you and your reviewer return to the patient's bedside together and discuss & compare points about history and physical?

	Always (Every Work Up)	Sometimes (1/wk.)	Rarely (1 every 2-3 wks.)	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

59. Who do you think should be responsible for reviewing a student's work ups?

____ Attending ____ Resident ____ Intern ____ Other: _____

Why?

60. Were you encouraged to do fairly rapid but good histories, physicals and write ups?

	Yes	No	Other:
1st	_____	_____	_____
2nd	_____	_____	_____

61. How much satisfaction did you derive from doing a history and physical on a patient and then writing it up for review?

1	2	3	4	5
Very Satisfying				Frustrating, learned little

PLEASE COMMENT ABOUT THIS QUESTIONNAIRE.

Appendix II: Questionnaire II

STUDENT QUESTIONNAIRE

Class: ___ 3rd year

 ___ 4th year

Medicine clerkships:

	<u>Where</u>	<u>Clerkship Period 1-8</u>
1st Clerkship		
2nd Clerkship		

1. Describe briefly how you felt your first few moments on the medicine clerkships.

1st

2nd

2. Who met with you to discuss the goals and objectives of the medicine clerkship?

	Attending	Resident	Intern	Other	No one
1st	___	___	___	___	___
2nd	___	___	___	___	___

3. Do you think it important for someone to discuss with you the goals and objectives of the medicine clerkship experience?

___ Yes ___ No

If yes, who? _____

4. If objectives were defined for you, rate how well they were met.

	Very Good	Good	Fair	Poor	Not applicable
1st	___	___	___	___	___
2nd	___	___	___	___	___

5. What do you think the objectives of a medicine clerkship should be?

6. At the beginning of your medicine clerkships did anyone explain to you the roles and duties of the clinical clerk?

	Yes	Who	No
1st	___	_____	___
2nd	___	_____	___

7. Do you think it is important for someone to describe the role and duties of the clinical clerk to incoming medical students?

___ Yes ___ No

If yes, who? _____

8. At the beginning of your medicine clerkship were you told what areas and skills you would be evaluated in?

	Yes	who	No
1st	___	_____	___
2nd	___	_____	___

9. Did you know what areas you would be evaluated in before you started the clerkship?

	Yes	No
1st	___	___
2nd	___	___

If yes, how did you know?

10. Do you think that telling medical students exactly what areas they will be evaluated in is a good idea or bad idea? Would it help or hinder learning?

11. Do you think that students should evaluate their ward teachers?

___ Yes ___ No

12. If you do think that students should evaluate teachers, should this be required of students?

___ Yes ___ No

13. Whose evaluation of students on medicine clerkships do you think is the most important for the Dean?

	Attending	Resident	Intern	Other	No one
1st	___	___	___	___	___
2nd	___	___	___	___	___

14. Please judge whether the evaluator's appreciation of your sense of worth correlated with your own.

	Excellent	Good	Fair	Poor
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

15. Who did the most teaching to you on your medicine clerkships?

	Attending	Resident	Intern	Students	Other	No one
1st	_____	_____	_____	_____	_____	_____
2nd	_____	_____	_____	_____	_____	_____

16. Rate as to how well you think the listed areas were taught to you on your medical clerkships. Use the following rating scale:

VG - Very Good

G - Good

F - Fair

P - Poor

NA - Not Applicable (In this case, meaning not taught.)

	<u>1st</u>	<u>2nd</u>
Communication skills	_____	_____
Factual knowledge	_____	_____
Clinical problem solving	_____	_____
Lab & clinical skills	_____	_____
Professional behaviour & attitudes	_____	_____

17. Using the same rating scale, rate how well you thought each skill was taught by various modes of teaching. NA here refers to the teaching modality was not employed for the specific skill.

	<u>Communication Skills</u>	<u>Factual Knowledge</u>	<u>Problem Solving</u>	<u>Lab & Clinical</u>	<u>Behaviour & Attitude</u>
ence with Attending & House Staff	_____	_____	_____	_____	_____
erence with Attending alone	_____	_____	_____	_____	_____
erence with House Staff alone	_____	_____	_____	_____	_____
work rounds	_____	_____	_____	_____	_____
ending rounds"	_____	_____	_____	_____	_____
rounds with Attending alone	_____	_____	_____	_____	_____
ide teaching	_____	_____	_____	_____	_____
ing	_____	_____	_____	_____	_____
ures	_____	_____	_____	_____	_____
d rounds	_____	_____	_____	_____	_____
r: _____	_____	_____	_____	_____	_____

ENTS:

18. Did you have enough contact with your attendings?

	Yes	No
1st	_____	_____
2nd	_____	_____

19. About how many hours per week did you meet with your attending?

	0-5 hrs.	5-10 hrs.	More than 10 hrs.
1st	_____	_____	_____
2nd	_____	_____	_____

20. Of those hours how many were spent with only students and attending?

1st	_____
2nd	_____

21. What modes of teaching did your attending employ and rate how well you liked them. (Use same scale #16.)

	MODE OF TEACHING	RATING
1st:	_____	- _____
	_____	- _____
2nd:	_____	- _____
	_____	- _____
	_____	- _____

22. What modes of teaching did the resident employ, and how would you rate them? (Use same scale as #16.)

	MODE OF TEACHING	RATING
1st:	_____	- _____
	_____	- _____
2nd:	_____	- _____
	_____	- _____
	_____	- _____

23. In your opinion did the responsibilities of the ward help or hinder the resident's teaching of students?

Help	Hinder	Neither
_____	_____	_____

24. What modes of teaching did the interns employ and how would you rate them? (Use same scale as #16.)

	MODE OF TEACHING	RATING
1st:	_____	- _____
	_____	- _____
2nd:	_____	- _____
	_____	- _____
	_____	- _____

25. Did patient load and duties deter from the intern's teaching of medical students?

Often Sometimes Rarely Actually helped teaching

26. Please comment about the modality of teaching you found most helpful and useful, and why?

27. Please indicate what other modes of teaching you might like to see employed and why?

28. Who should have the most teaching responsibility for medical students on the medical wards?

Attending Resident Interns Other: _____

Why?

29. Which person on the ward presented you with the best role-model of a competent physician?

	Attending	Resident	Intern	Other	No one
1st	_____	_____	_____	_____	_____
2nd	_____	_____	_____	_____	_____

30. Rate communication with each of your teachers. (Use scale in #16.)

	Attending	Resident	Interns
1st	_____	_____	_____
2nd	_____	_____	_____

31. At some point, at most half-way through the clerkship, did someone tell you how well or how poorly you were progressing?

1st:	_____ Yes; who _____	_____ No
2nd:	_____ Yes; who _____	_____ No

32. Throughout the clerkship, were you getting feedback as to how well you were doing?

	Often	Sometimes	Rarely	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

33. Rate your attending on the following using the rating scale below:

VG - Very Good
G - Good
F - Fair
P - Poor
TI - Totally Inadequate

	Attending	
	<u>1st</u>	<u>2nd</u>
A. Depth & newness of knowledge	_____	_____
B. Admits to lack of knowledge when appropriate	_____	_____
C. Ability to convey information	_____	_____
D. Ability to clarify complex issues	_____	_____
E. Receptivity to new ideas or criticisms	_____	_____
F. Genuine interest in teaching	_____	_____
G. Willingness to devote extra time to student problems	_____	_____
H. Stimulating teacher	_____	_____
I. Ability to teach analytical approach to clinical problems	_____	_____
J. In relating to patients, conveys compassion & concern for the individual	_____	_____
K. Teaches utilization of paramedical personnel in patient care	_____	_____
L. Provision of references	_____	_____

COMMENTS:

34. Rate the following according to the scale in #33:

	<u>1st</u>	<u>2nd</u>
A. Usefulness of the clerkship for your medical education	_____	_____
B. Usefulness of clerkship for other clerkships	_____	_____
C. Teaching of the approach & analyses of clinical problems	_____	_____
D. Helpfulness of criticism of your work ups	_____	_____
E. <u>Your</u> learning to develop judgment	_____	_____
F. <u>Emphasis</u> on crucial material by teachers	_____	_____
G. Basic science correlations	_____	_____

35. Please discuss whether the attending &/or resident actively encouraged you to discuss your impressions and formulations about a patient's care and disease, i.e., differential diagnosis, pathophysiology treatment, prognosis, psychological adjustment to illness, relations with family.

35. (Cont'd)

Also, please indicate:

- | | YES | NO |
|---|-------|-------|
| 1. Whether you benefitted from such discussions | _____ | _____ |
| 2. Whether the discussions were conducted in a comfortable manner | _____ | _____ |
| 3. Frequency of such interactions: | | |

Often	A few times	Once	Never
_____	_____	_____	_____

36. Which did each clerkship do best? (Giving you an appreciation of a disease or a disease process?)

	Disease	Disease process	Neither
1st	_____	_____	_____
2nd	_____	_____	_____

37. At the beginning of your first clerkship, rate your competence at doing a history & physical using the rating scale in #33:
_____.

38. Rate yourself at the beginning of your 2nd clerkship: _____.

39. If you have completed two medicine clerkships, rate your competence: _____.

40. How often did the attending watch you do a history?

	Often	A few times	Once	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

41. How often did the attending watch you do a physical examination?

	Often	A few times	Once	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

42. How often did the resident watch you do a history?

	Often	A few times	Once	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

43. How often did the resident watch you do a physical examination?

	Often	A few times	Once	Never
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

44. Do you think it important that someone watch you do a history and a physical?

_____ Yes _____ No

If yes, who should this be and how often?

45. How often did you watch the following do a history & physical examination? Use the rating scale below:

O - Often
F - Few Times
S - Once
N - Never

	<u>History</u>	<u>Physical</u>
Attending - 1st	_____	_____
2nd	_____	_____
Resident - 1st	_____	_____
2nd	_____	_____
Interns - 1st	_____	_____
2nd	_____	_____

46. How important are "write ups" in your medicine clerkship learning experience?

1	2	3	4	5
Very important				Useless

47. Who reviewed your "write ups?"

	Intern	Resident	Attending
1st	_____	_____	_____
2nd	_____	_____	_____

48. Were the write ups usually returned promptly, say within 24 hours?

Yes	No; when
1st	_____
2nd	_____

49. Were there comments, criticisms, etc., made by the reviewer on your write ups?

	Always	Sometimes	Rarely
1st	==	==	==
2nd	==	==	==

50. Did you find the comments generally helpful?

	Yes	No
1st	==	==
2nd	==	==

51. How often did you receive a write up that was graded only with a Good, Fair, etc., or a letter grade?

	Frequently	Sometimes	Rarely	Never
1st	==	==	==	==
2nd	==	==	==	==

52. On the average, how many write ups per week did you do?

1st	==
2nd	==

53. How often did the person who reviewed your write ups meet with you to discuss them?

	Nearly always	(1/wk.) Sometimes	(1 every 2-3 wks.) Hardly ever	Never
1st	==	==	==	==
2nd	==	==	==	==

54. How often did you try to meet with your reviewer to discuss the write up?

	Didn't have to (#53)	Always	Sometimes	Hardly ever	Never
1st	==	==	==	==	==
2nd	==	==	==	==	==

55. How often did the person who reviewed your write ups also work up the patient?

	Always	Sometimes	Rarely	Never
1st	==	==	==	==
2nd	==	==	==	==

56. If the person who reviewed your write ups had not done a history & physical on the patient, was he informed well enough about the patient to evaluate critically your write up?

57. How often did you and your reviewer return to the patient's bedside together and discuss & compare points about history and physical?

	Always (Every work up)	Sometimes (1/wk.)	Rarely (1 every 2-3 wks.)	Never
1st	==	==	==	==
2nd	==	==	==	==

58. Whom do you think should be responsible for reviewing a student's work ups?

___ Attending ___ Resident ___ Intern ___ Other: _____

Why?

59. Were you encouraged to do fairly rapid but good histories, physicals, and write ups?

	Yes	No	Other:
1st	==	==	=====
2nd	==	==	=====

60. How much satisfaction did you derive from doing a history and physical on a patient and then writing it up for review?

1	2	3	4	5
Very satisfying				Frustrating, learned little

61. Did your medicine clerkship(s) have any effect on your future in medicine? If so, in what way?

___ Yes ___ No

62. How much did the medicine clerkship(s) help fulfill your idea of your role as a physician?

	Very much	Some	Little	Not at all
1st	==	==	==	==
2nd	==	==	==	==

63. In what other ways were your ideals of medical education fulfilled or unfulfilled by your medicine clerkship(s)?

64. On your medicine clerkship(s) was the medical profession portrayed in such a way that you wanted to identify with it and be a part of it?

_____ Yes

_____ No

_____ No opinion

65. Do you feel that the medicine clerkship instilled in you a desire to learn for the sake of learning or to achieve a good evaluation?

PLEASE COMMENT ABOUT THIS QUESTIONNAIRE.

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